REMOVAL ACTION REPORT
Volume I: Final Report

Avery Landing Site
Avery, Idaho
TDDs: 12-05-0006/7/8/9

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May 2013

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List of Abbreviations and Acronyms

Abbreviation	Definition
%	Percent
% R	percent recovery
AAR	Applied Archaeological Research, Inc.
AOC	Administrative Order on Consent
AMEC	AMEC Environment & Infrastructure, Inc.
ARAR	applicable or relevant and appropriate requirement
ASAOC	Administrative Settlement Agreement and Order on Agreement
AST	above-ground storage tank
BA	Biological Assessment
Bentcik	Larry and Ethel Bentcik
bgs	below ground surface
BMPs	best management practices
BS	blank spike
Bunker C	diesel and heavy oil
CA	Corrective Action
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CRE	Cultural Resource Evaluation
CWA	Clean Water Act
DRO	diesel-range organics
DQOs	data quality objectives
E & E	Ecology and Environment, Inc.
EE/CA	Engineering Evaluation / Cost Analysis
EPA	United States Environmental Protection Agency
EQM	Environmental Quality Management, Inc.
ERRS	Emergency and Rapid Response Services
ft^2	square feet
GAC	granular activated carbon
gpm	gallons per minute
FHWA	Federal Highway Administration
FPRS	free product recovery system
HASP	Site-Specific Health and Safety Plan
IA	Interagency Agreement
IDEQ	Idaho Department of Environmental Quality
IDL	Idaho Department of Lands
LNAPL	light non-aqueous phase liquid
Milwaukee Railroad	Chicago, Milwaukee, St. Paul and Pacific Railroad
MCLs	Maximum Contaminant Levels
MS	matrix spike
MSD	matrix spike duplicate
NWTPHDx	Extended Diesel Range Total Petroleum Hydrocarbons
OSC	On-Scene Coordinator

List of Abbreviations and Acronyms (cont.)

PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
POLREP	Pollution Report
Potlatch	Potlatch Land and Lumber, LLC
PPE	personal protective equipment
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
RA	removal action
RAOs	removal action objectives
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
RPD	relative percent difference
SARA	Superfund Amendments and Reauthorization Act
Site	Avery Landing Site
SHPO	State Historic Preservation Office
SPAF	Sampling Plan Alteration Form
SOPs	Standard Operating Procedures
SSSP	Site-Specific Sampling Plan
START	Superfund Technical Assessment and Response Team
SVOCs	semivolatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TDD	Technical Direction Document
TPHs	total petroleum hydrocarbons
TWA	time-weighted average
URS	URS Consultants, Inc.
VOCs	volatile organic compounds
yd^3	cubic yards

Executive Summary

In 2012 the United States Environmental Protection Agency (EPA) performed a removal action (RA) at the Avery Landing Site (Site). The Site consisted of a former railroad roundhouse and maintenance facility for the Chicago, Milwaukee, St. Paul and Pacific Railroad (Milwaukee Railroad), located approximately one mile west of Avery, Idaho. The RA was performed to mitigate the potential risks to human health and the environment by reducing concentrations of Site contaminants to acceptable human health and ecological receptor risk-based concentrations and mitigate the release of Site contaminants to the St. Joe River.

After the Milwaukee Railroad ceased operations in the 1970s, the facility was decommissioned and the property was subdivided. There are four (4) ownership interests associated with the Site, including those of the United States, Larry and Ethel Bentcik (Bentciks), Potlatch Land and Lumber, LLC (Potlatch), and the Idaho Department of Lands (IDL). The property of the United States at the Site is administered by the Federal Highway Administration (FHWA).

The continued presence of petroleum seeps and sheen in the surface water indicate that previous clean-up efforts at the Site since the 1990s have not been successful at preventing contamination from reaching the St. Joe River. Petroleum hydrocarbons have been observed in surface water, groundwater, and subsurface soil throughout the Site at levels that exceeded applicable state regulatory standards. Analytical results for hazardous substances show that volatile organic compounds, semivolatile organic compounds, carcinogenic and non-carcinogenic polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and metals present in subsurface soil, sediment, surface water, and/or groundwater exceed applicable federal and/or state screening levels.

In May 2012, Ecology and Environment, Inc. (E & E) prepared a Final Draft Work Plan and Conceptual Design (E & E 2012b) for EPA that provided a preliminary approach and conceptual design for guidance during implementation of the RA. The RA conceptual design was based on the selected removal action as described in the Engineering Evaluation / Cost Analysis document (E & E 2010), involving the removal of contaminated materials and transport off-Site for disposal.

EPA performed the RA from late May through October 2012, with some final Site tasks completed in November 2012. The 2012 RA was performed to address contamination present on the FHWA and Bentcik properties and a portion of the IDL property. EPA also performed work on Potlatch property boundary transition areas to safeguard against the recontamination of cleanup work performed on the adjacent Bentcik, FHWA, and IDL properties. It is presently expected that Potlatch will perform a removal action in 2013 with oversight provided by EPA to address the contaminated material remaining on-Site.

During the 2012 RA, 15,254,600 gallons of contaminated groundwater was treated; 160,067 pounds of scrap metal and 396 cubic yards of asphalt were recycled; 47,735 cubic yards of contaminated material was excavated and transported off-Site for disposal; 54,096 cubic yards of clean overburden material was placed in excavations; and 21,817 cubic yards of material was

imported from off-Site to reconstruct Highway 50. Disturbed areas were restored by placing erosion control slash material and seeding.

Throughout the RA, air and surface water monitoring were conducted to ensure that Site Best Management Practices were protective of workers, the community, and the environment from short-term construction impacts such as erosion, sedimentation, and fugitive dust.

1 Introduction

The United States Environmental Protection Agency (EPA) performed a removal action (RA) at the Avery Landing Site (Site) in 2012 under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and Section 311 of the Federal Water Pollution Control Act, also referred to as the Clean Water Act (CWA), 33 U.S.C § 1321.

The RA was performed by Environmental Quality Management, Inc. (EQM) under an Emergency and Rapid Response Services (ERRS) contract with EPA. EPA tasked Ecology and Environment, Inc. (E & E), under Superfund Technical Assessment and Response Team (START)-3 contract number EP-S7-06-02, Technical Direction Document (TDD) numbers 12-05-0006, 7, 8, and 9, to provide engineering, sampling, and documentation support for the RA.

This report documents the 2012 Site RA and is organized into the following sections: Introduction (Section 1); Site Description and Background (Section 2); Project Approach and Organization (Section 3); Removal Activities (Section 4); Field Monitoring and Sampling (Section 5); 2013 Anticipated Removal Activities (Section 6); Community Relations (Section 7); Quality Assurance / Quality Control (QA/QC) (Section 8); Health and Safety (Section 9); Difficulties Encountered / Recommendations (Section 10); Summary and Conclusions (Section 11); and References (Section 12).

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2 Site Description and Background

2.1 Site Location and Layout

Site Name	Avery Landing
Owners / Responsible Parties	United States (administered by the Federal Highway Administration), Larry and Ethel Bentcik, Idaho Department of Lands, and Potlatch Land and Lumber, LLC
SSID #	10FT
CERCLIS #	IDD984666313
Location	Approximately one mile west of Avery, Idaho
Latitude	47°14' 57" North
Longitude	115° 49' 16" West

The Site is located in the St. Joe River Valley in the Bitterroot Mountains in northern Idaho, one mile west of the town of Avery in Shoshone County (Figures 2-1 and 2-2). The Site is directly adjacent to the St. Joe River to the south and Highway 50 to the north. The Site is located within the northeast quarter of Section 16, Township 45 North, Range 5 East, and the northwest corner of Section 15, Township 45 North, Range 5 East (E & E 2010).

2.2 Ownership and Site History

The Chicago, Milwaukee, St. Paul and Pacific Railroad (Milwaukee Railroad) owned the Site from 1907 to 1980 and operated at the Site from approximately 1907 to 1977. During operation, the Site was used as a switching station and light maintenance facility. The facility included a turntable, roundhouse, machine shop, fan house, engine house, boiler house, storehouses, coal dock, oil tanks, and a pump house. Activities during this time included refueling locomotives, using solvents to clean engine parts, cleaning locomotives, and maintaining equipment. The facility was located at the end of an electric rail line from the east; at the facility, trains switched to fuel oil and/or diesel locomotives. Fuel oil was stored on-Site in a 500,000-gallon aboveground storage tank (AST) (see photograph in Appendix A). The Milwaukee Railroad began to operate electric locomotives in the mid-1910s and continued until the mid-1970s. The layout of the former railroad roundhouse and maintenance facility is indicated on Figure 2-3, and Figure 2-4 shows this facility diagram overlaying a recent aerial image of the Site.

Most of the railroad facilities and structures were demolished after the operations ceased at the Site; however, contamination resulting from Site activities remained on Site in subsurface soils, groundwater, and as light non-aqueous phase liquid (LNAPL) based on field investigations conducted in 2007 and 2009 (E & E 2007; Golder 2009). The maintenance facility at the Site was related to several other Milwaukee Railroad facilities located approximately 0.75 miles east in the town of Avery, including a passenger terminal and Substation No. 14, an electric substation that provided electricity for the electric rail line to the east.

After the Milwaukee Railroad ceased operations in the 1970s, the facility was decommissioned and the property was subdivided. There are four ownership interests associated with the Site,

including those of the United States, Larry and Ethel Bentcik (Bentciks), Potlatch Land and Lumber, LLC (Potlatch)[1], and the Idaho Department of Lands (IDL). The property of the United States at the Site is administered by the Federal Highway Administration (FHWA). The Site and its property boundaries at the time of the RA are illustrated in Figure 2-5.

The Milwaukee Railroad initiated a bankruptcy reorganization proceeding in 1977 which was completed in 1985. The successor corporation to the Milwaukee Railroad is CMC Heartland Partners (CMC). A bankruptcy liquidation proceeding was initiated by CMC in 2006. Potlatch Corporation acquired an approximate 5-acre portion (Section 16) of the Site from the Milwaukee Railroad in 1980. Many of the former Milwaukee Railroad facilities, including the turntable, roundhouse, engine house, machine shop, and cinder pit, were located on the portion of property obtained by Potlatch Corporation. Prior to this purchase, from 1973 to 1980, Potlatch Corporation leased portions of the Site from the Milwaukee Railroad. After acquiring the land, Potlatch Corporation leveled and graded the property and used the property for temporary log storage, an employee bunkhouse, and a private rail line. Portions of the property were also leased by Potlatch Corporation to tenants for log storage, parking, and trailer sites (Golder 2010). The buildings and equipment associated with the former Milwaukee Railroad maintenance facility are no longer visible at the Site. EPA does not have definitive information about the disposition of these materials.

As part of the bankruptcy reorganization of the Milwaukee Railroad, a portion (Section 15) of the Site reverted back to the family which owned this property prior to the operations of the Milwaukee Railroad, and this family subsequently sold the property to David Thierault. In 1996, David Thierault in turn sold this approximate 5-acre portion of property to the Bentciks, who currently own the property and use it for a vacation residence. Historical railroad facilities on this portion of the Site included an office, store house, oil pipes, and sand, coal, and oil storage. Based on the historical facility diagram, this portion of the Site may also have been the area where most of the rail car refueling occurred during the operation of the Milwaukee Railroad.

The original railroad grade portion of the property along the northern edge of the Site was acquired by the United States by eminent domain in 1986. FHWA constructed and expanded State Highway 50 along this property. Although the United States continues to own this property, FHWA provided an easement right-of-way in 1992 allowing Shoshone County to operate and maintain State Highway 50. This portion of the Site extends to the shoulder north of the highway, where the former Milwaukee Railroad roundhouse AST was located, and where Potlatch Corporation re-injected untreated groundwater from the 1990s Free Product Recovery System (FPRS) (see Section 2.4.3).

Numerous groundwater monitoring wells and "stick-up pipes" (i.e., polyvinyl chloride [PVC] pipes installed vertically in subsurface soil) were also located on the Site at the time of the RA and were installed on behalf of Potlatch Corporation to monitor for the presence of LNAPL in groundwater during previous investigations. Additional larger wells on the Site included those used as part of the FPRS, which was installed for Potlatch Corporation in 1994. Other product

[1] Potlatch Land and Lumber, LLC is the current owner of the property and has owned it since 2007. Prior to 2007, the property was owned by Potlatch Corporation. Throughout this report, the abbreviation "Potlatch" will refer to the current owner, Potlatch Land and Lumber, LLC.

recovery system features that still existed at the Site at the time of the RA included a 5,000-gallon AST and a shed installed on a concrete slab, which were used by Potlatch Corporation for cleanup activities.

2.3 Surrounding Land Use and Populations

The Site is within the narrow St. Joe River Valley, which is in the St. Joe National Forest District of the Idaho Panhandle National Forests. There are generally steep mountains to the north and south of the St. Joe River, including directly north of Highway 50 from the Site. Land uses in the area around the Site are largely rural and recreational, which is consistent with its location surrounded by a national forest.

The St. Joe River is a popular recreational waterway that is often used for kayaking, rafting, and fishing. There are several areas of commercial land nearby, including a motel and recreational vehicle park across the river. The town of Avery, Idaho, has a permanent population of approximately 60 people and is located approximately one mile to the east of the Site.

2.4 Previous Site Investigations and Cleanup Actions

There is substantial information indicating that human health and environmental impacts are present at the Site. A petroleum plume of heavy oil and diesel is present in subsurface soil and groundwater and is migrating toward and discharging to the St. Joe River. Additionally, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), carcinogenic and non-carcinogenic polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals are present in subsurface soil and groundwater at the Site. A summary of previous Site investigations and cleanup activities is provided below.

2.4.1 Idaho Department of Environmental Quality (IDEQ) Late 1980s Site Investigation

In the late 1980s, the State of Idaho Division of Environmental Quality of the Idaho Department of Health (now the State of Idaho Department of Environmental Quality [IDEQ]) began to investigate the Site because of the presence of visible oil discharges to the St. Joe River from the Site riverbank. The investigation included installation of several monitoring wells and test pits in the late 1980s and early 1990s. These investigations determined that the oil included a mix of diesel and heavy oil and was present at the water table throughout the Site, with oil thicknesses exceeding a depth of four feet in some locations (E & E 2010).

2.4.2 EPA 1992 Site Inspection

In 1992, URS Consultants, Inc. (URS) performed an investigation at the Site as a contractor to the EPA. URS collected soil, groundwater, and surface water samples from the Site and vicinity for laboratory analysis. The results indicated the presence of VOCs, SVOCs, metals, and PCBs. Benzene, arsenic, and lead were detected in an on-Site monitoring well at concentrations that exceeded their respective federal Maximum Contaminant Levels (URS 1993).

2.4.3 Potlatch Corporation 1994 Free Product Recovery System (FPRS)

In 1994, Potlatch Corporation installed a FPRS at the Site pursuant to a 1994 IDEQ Consent Order. The FPRS was designed to intercept and remove petroleum in the form of LNAPL from groundwater. The system consisted of four subsurface extraction trenches and four extraction

wells, an AST, and an infiltration trench. Each extraction well contained two pumps, including one pump to lower the groundwater level and one pump for the LNAPL[2]. The intended function of the FPRS was to remove the LNAPL from the surface of the groundwater and collect it in the AST for off-Site disposal or reuse. The untreated groundwater, absent the application of any treatment technology, was pumped to a 230-foot long infiltration trench installed in the roadside ditch north of Highway 50 where it was re-injected underground. The groundwater then gradually percolated through the bottom and sides of the trench through the surrounding subsoil into the aquifer. The infiltration trench likely functioned as a mechanism for discharge of groundwater and/or to encourage subsurface movement of the LNAPL toward the downgradient extraction trenches and recovery wells. The FPRS was operated by Potlatch Corporation from approximately 1994 through 2000, and recovery of 1,290 gallons of petroleum was reported (Farallon 2006). During the operation of the system, at least one system upset was reported in which LNAPL was pumped to the infiltration trench and "free product was discovered in the ditch on the opposite side of the road" (Hart Crowser 1999). Although this system was no longer in operation, it remained on-Site at the beginning of the 2012 RA.

2.4.4 Potlatch Corporation 2000 Product Containment Barrier

By 2000, despite the operation of the FPRS, product discharges from the Site were still observed on the banks of the St. Joe River. Pursuant to a 2000 modification to the 1994 IDEQ Consent Order, Potlatch Corporation installed a restraining barrier along the bank in 2000 to help prevent free product from reaching the river. Potlatch Corporation excavated material away from the bank, installed a PVC liner to act as a barrier wall to prevent product discharges to the river, and backfilled with sand, gravel, and riprap along the bank. Potlatch Corporation also installed a series of product recovery trenches and six collection wells to recover any free product that might collect against the barrier (Farallon 2006). With the new restraining barrier, Potlatch Corporation proposed to recover additional free product if product was present in the Site collection wells at a thickness of 0.05 feet (0.6 inches) or greater. Potlatch Corporation monitored the Site monitoring and collection wells for free product through 2005, but they did not recover any product during this period. In the 2005 monitoring report to DEQ, Potlatch Corporation reported that seeps and sheens were observed in surface water in the St. Joe River (Linton 2005).

2.4.5 EPA 2007 Removal Assessment

In a letter dated September 11, 2006, IDEQ requested the assistance of EPA to investigate the Site and the continued oil discharges to the St. Joe River. In 2007, EPA performed a removal assessment at the Site to investigate the discharges of oil and hazardous substances to surface waters and shorelines of the United States, and releases of hazardous substances. EPA installed 13 soil borings, of which six were completed as monitoring wells. The investigation focused on the eastern area of the Site, including portions of both the Potlatch and Bentcik properties (E & E 2007).

EPA observed oil in surface water, groundwater, and subsurface soil throughout the Site at levels that exceeded applicable state regulatory standards. Oil was observed floating on groundwater in monitoring and recovery wells with measurable thicknesses up to 0.88 feet. Subsurface soils

[2] Previous reports stated that the FPRS system included an oil/water separator; however, the as-built drawings for the system as prepared by Potlatch's contractor show that an oil/water separator was not included as part of the constructed system.

collected from soil borings were saturated with oil. EPA observed active oil discharges and "blooms" to the St. Joe River. An approximate 200-foot stretch of the Site's river bank contained evidence of past-oil discharges, including oil staining on rip rap at the water level. Analytical results confirmed the presence of diesel and heavy oil (Bunker C), which was consistent with historical documentation about the nature of the oil releases. EPA's investigation also indicated the area of the free oil plume was larger than previously estimated (E & E 2007).

Subsurface soil and groundwater samples collected from the Site contained several hazardous substances (including carcinogenic PAHs) that exceeded applicable state and federal guidelines. Several metals (arsenic, iron, lead, manganese, and mercury) also exceeded applicable guidelines, although some of these metals may be naturally elevated in the region. The PCB Aroclor-1260 was detected in several Site soil samples and in a sample of the oil, and Aroclor-1260 exceeded the state guideline in one groundwater sample. The on-Site domestic well, which is downgradient of the Site's LNAPL plume area, contained concentrations of Site contaminants, including anthracene, diesel-range organics (DRO), and arsenic (E & E 2007).

In addition to the visible oil discharges to the St. Joe River, a sample of surface water contained four PAHs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, and chrysene) at concentrations that exceeded Idaho Risk Evaluation Manual guidelines, and the PAH benzo[a]pyrene also exceeded the federal ambient water quality criteria. When compared to sediment guidelines, PAH compounds detected in the soil samples exceeded several consensus-based sediment quality guidelines (E & E 2007).

2.4.6 Potlatch 2009/2010 Draft Engineering Evaluation/Cost Analysis

In 2008, Potlatch and EPA entered into an Administrative Settlement Agreement and Order on Agreement (ASAOC), CERCLA Docket No. 10-2008-0135, requiring Potlatch to complete an Engineering Evaluation / Cost Analysis (EE/CA), a Biological Assessment (BA), and a Cultural Resources Evaluation (CRE) for the Site. Work associated with the EE/CA was undertaken by Golder Associates, Inc. (Golder) as a consultant to Potlatch. As a part of the EE/CA, Potlatch agreed to perform additional characterization field work at the Site, which was completed in the late summer and fall of 2009 (Golder 2010).

The field work included the sampling of subsurface soil (from test pits and boreholes), groundwater (from existing and four newly installed monitoring wells), LNAPL (from groundwater wells and surface water discharges), sediment, and surface water. LNAPL was observed in subsurface soil, groundwater, sediment, and surface water. Analytical results indicated that DRO/heavy oils, SVOCs (including carcinogenic PAHs), PCBs, VOCs, and metals were detected in subsurface soil and sediment. DRO/heavy oils and carcinogenic PAHs were detected in groundwater. Surface water contained carcinogenic and non-carcinogenic PAHs and metals (Golder 2010). Based on observations recorded during field work, Golder updated the estimated extent of the LNAPL plume. Golder also observed evidence of buried debris and trash in the western half of the Site (Golder 2010).

2.4.7 EPA Engineering Evaluation/Cost Analysis 2010-2011

Beginning in April 2010, EPA assumed responsibility for completion of the Site EE/CA, BA, and CRE due primarily to an excess of deficiencies in the draft EE/CA report submitted by

Potlatch. A human health and an ecological streamlined risk evaluation were performed for the EE/CA using analytical data collected during the 2007 EPA removal assessment and the 2009 field work performed by Potlatch. The results of the human health streamlined risk evaluation indicated that soil, groundwater, and surface water were impacted by Site-related contamination. Numerous analytes including carcinogenic PAHs in Site media exceeded health-based screening criteria, indicating that adverse health effects due to exposure to Site-related contamination were possible. The results of the ecological risk evaluation indicated that surface water and sediment samples from the St. Joe River near the Avery Landing Site were impacted by petroleum contamination.

The EE/CA identified and evaluated a number of removal action alternatives, including excavation of the contaminated soil, followed by either low-temperature thermal desorption, soil washing, or off-Site disposal of the contaminated materials. The removal action alternatives were analyzed individually and comparatively for their ability to prevent discharges to the shoreline and water of the St. Joe River, and for overall protection of public health and the environment. The recommended removal action, LNAPL extraction followed by excavation and off-Site disposal, was found to be effective and implementable. While not the least expensive alternative, it had several key advantages over other alternatives that were evaluated including being the most straightforward and least problematic alternative.

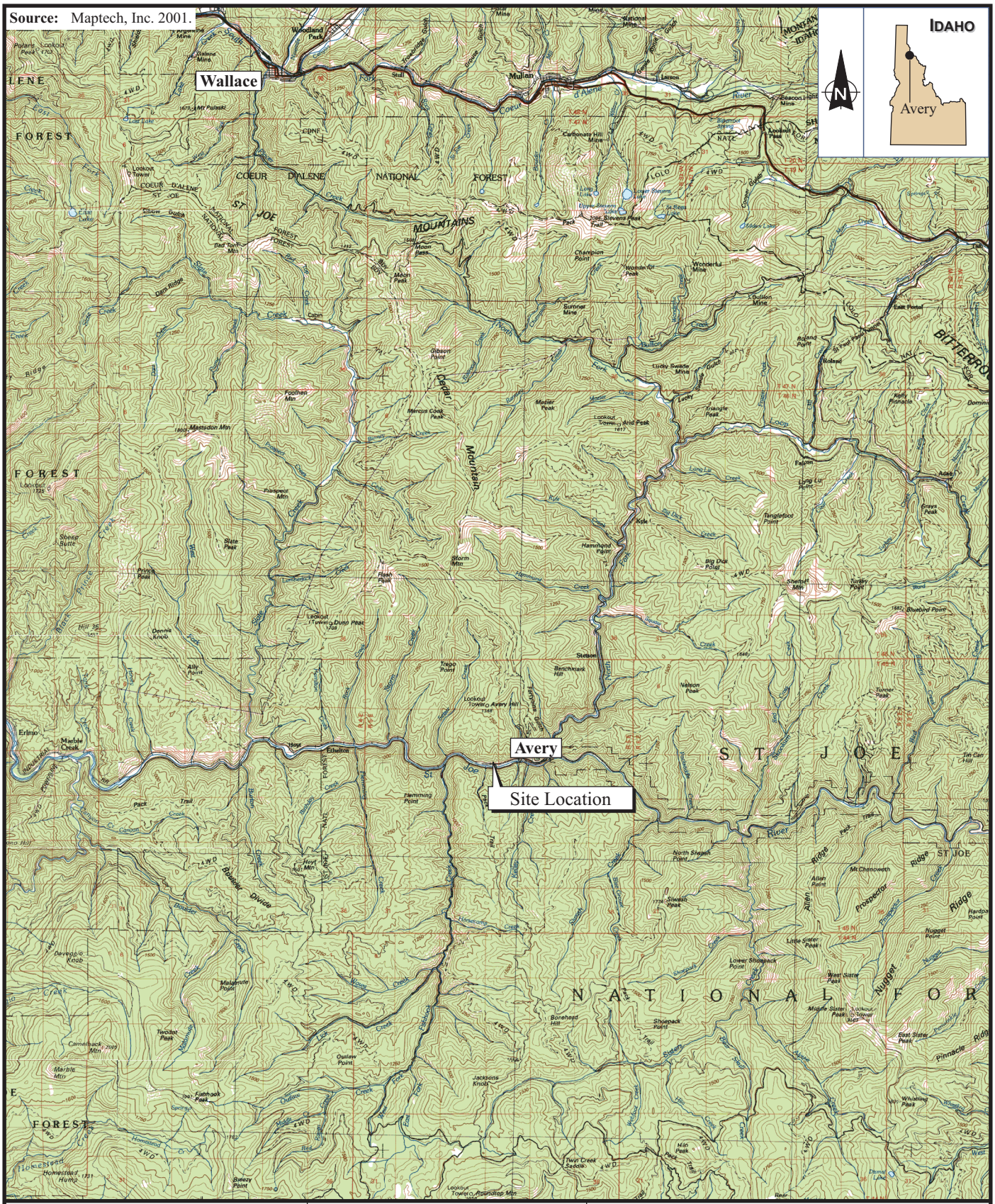
In 2011, following the completion of the EE/CA, EPA completed a BA of the Site and consulted with the United States Fish and Wildlife Service pursuant to the Endangered Species Act.

2.4.8 FHWA and Potlatch 2011 Additional Investigations

In September 2011, the FHWA and Potlatch both performed additional field investigations to further delineate the extent of contamination on their properties. While these investigations were performed independently by FHWA and Potlatch, the work was coordinated with EPA and both investigations were performed during the week of September 19, 2011.

The objective of the Potlatch investigation was to further investigate and delineate the extent of contamination at two discrete areas of the Site west of the main plume area where Potlatch had identified areas of petroleum contamination during a 2009 EE/CA-related field sampling event. As a result of their investigation, Potlatch's contractor confirmed and delineated the extent of petroleum at one of the discrete locations; however, the location of the other discrete location could not be confirmed. During this field sampling event, Potlatch also monitored groundwater and product levels in the Site monitoring wells and decommissioned the Site's former drinking water well (GeoEngineers 2011).

FWHA performed its investigation to confirm the extent of contamination present on the Highway 50 ROW. FHWA's contractor advanced 11 boreholes along the length of the ROW near the known area of the contaminant plume. The results indicate that petroleum hydrocarbons were detected in at least one soil sample from each borehole. The highest concentrations were observed in the soil samples collected directly downgradient from the former location of the 500,000 gallon fuel AST. Based on observations of LNAPL observed at the borehole locations, the FHWA estimated that the contaminant plume areas extended further to the north and east than previously estimated (AMEC 2011).



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AVERY LANDING SITE
Avery, Idaho

Figure 2-1

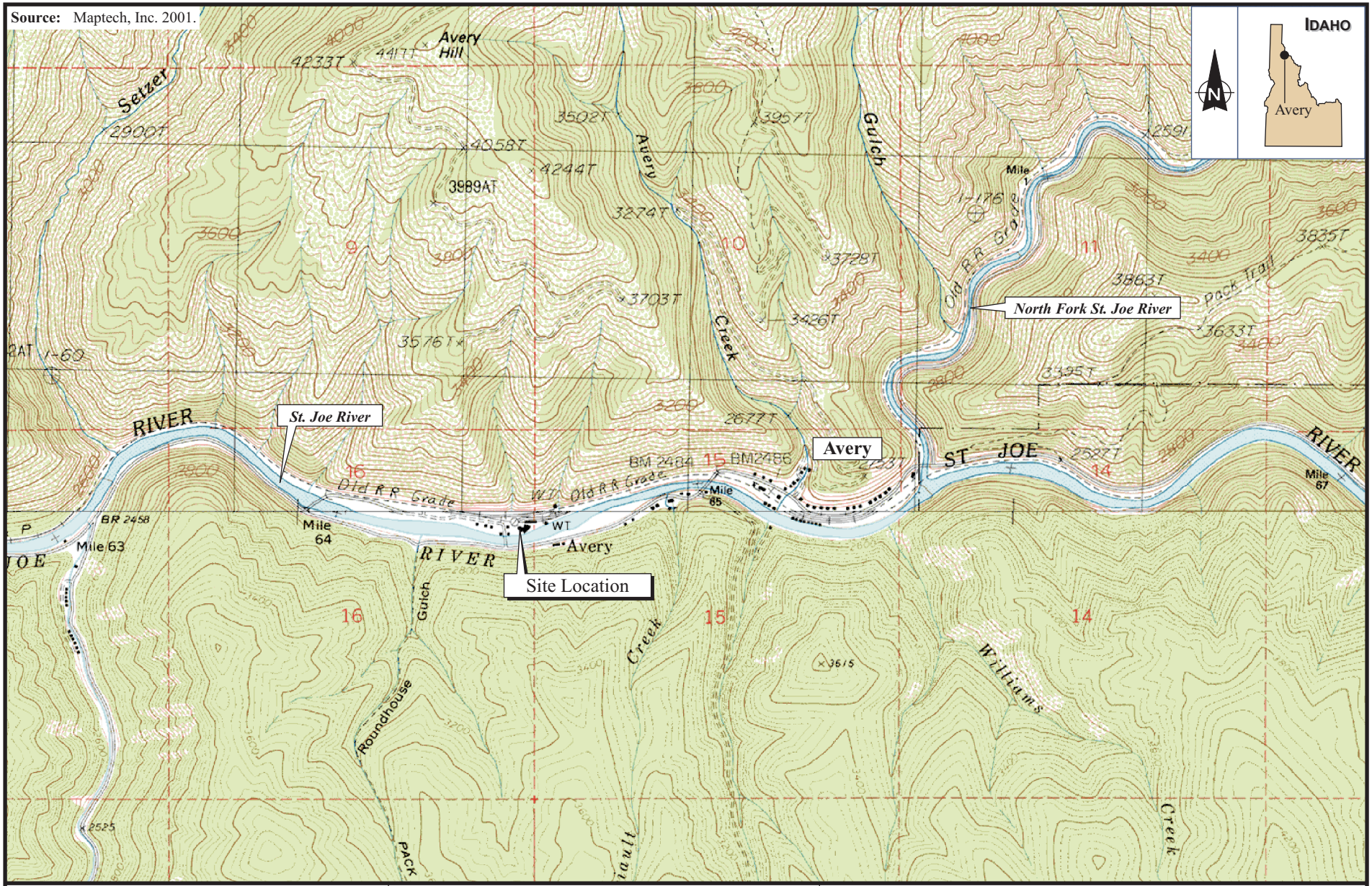
SITE LOCATION MAP

0 1.5 3
Approximate Scale in Miles

Date: 2-6-13

Drawn by: AES

10:START-3\12050006\fig 2-1



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AVERY LANDING SITE
Avery, Idaho

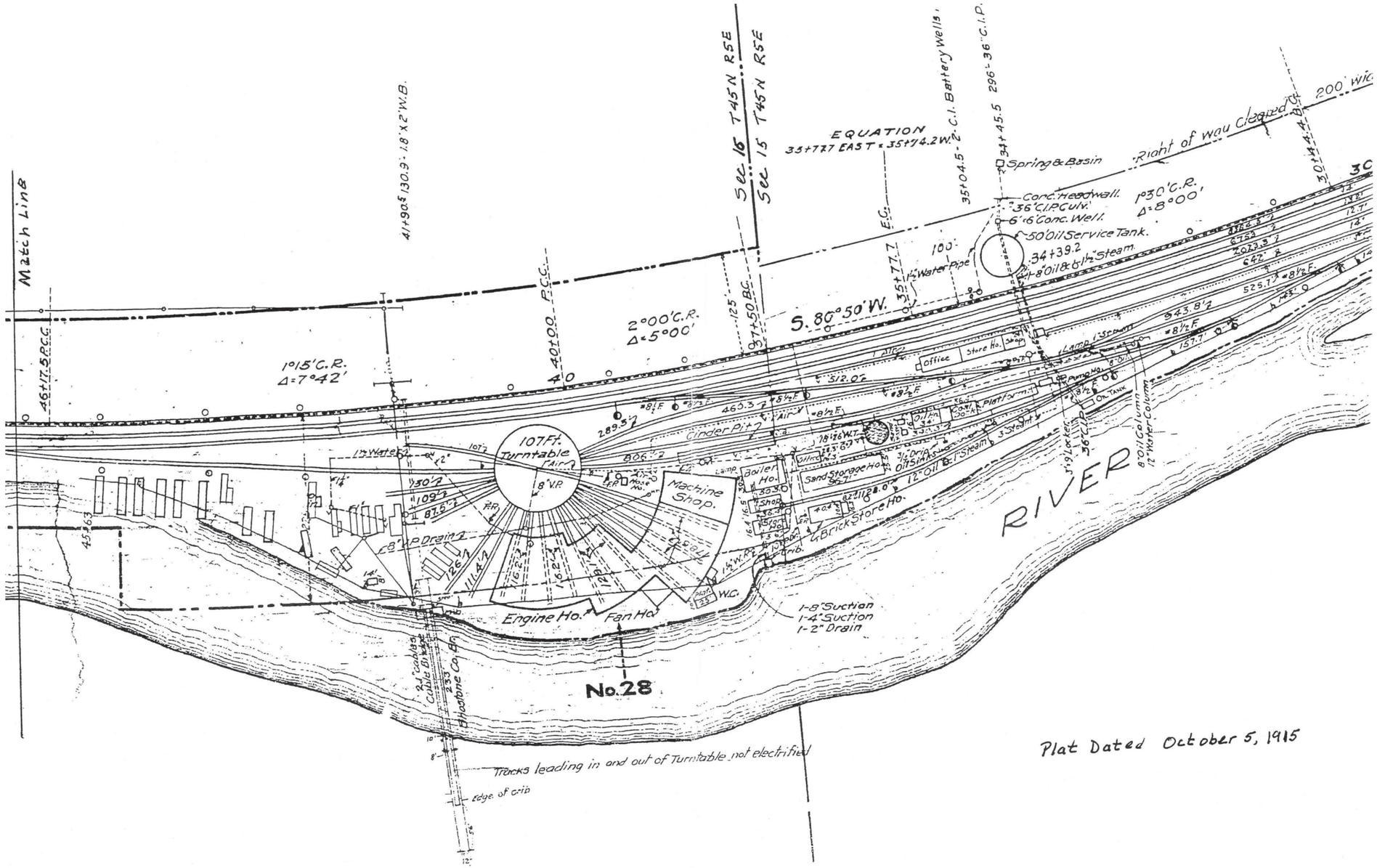
0 1000 2000
Approximate Scale in Feet

Figure 2-2
SITE VICINITY MAP

Date: 2/6/13

Drawn by: AES

10:START-3\12050006\fig 2-2



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AVERY LANDING SITE
Avery, Idaho

Figure 2-3
HISTORICAL RAILROAD FACILITY LAYOUT

Date:	Drawn by:	
2/6/13	AES	10:START-3\12050006\fig 2-3

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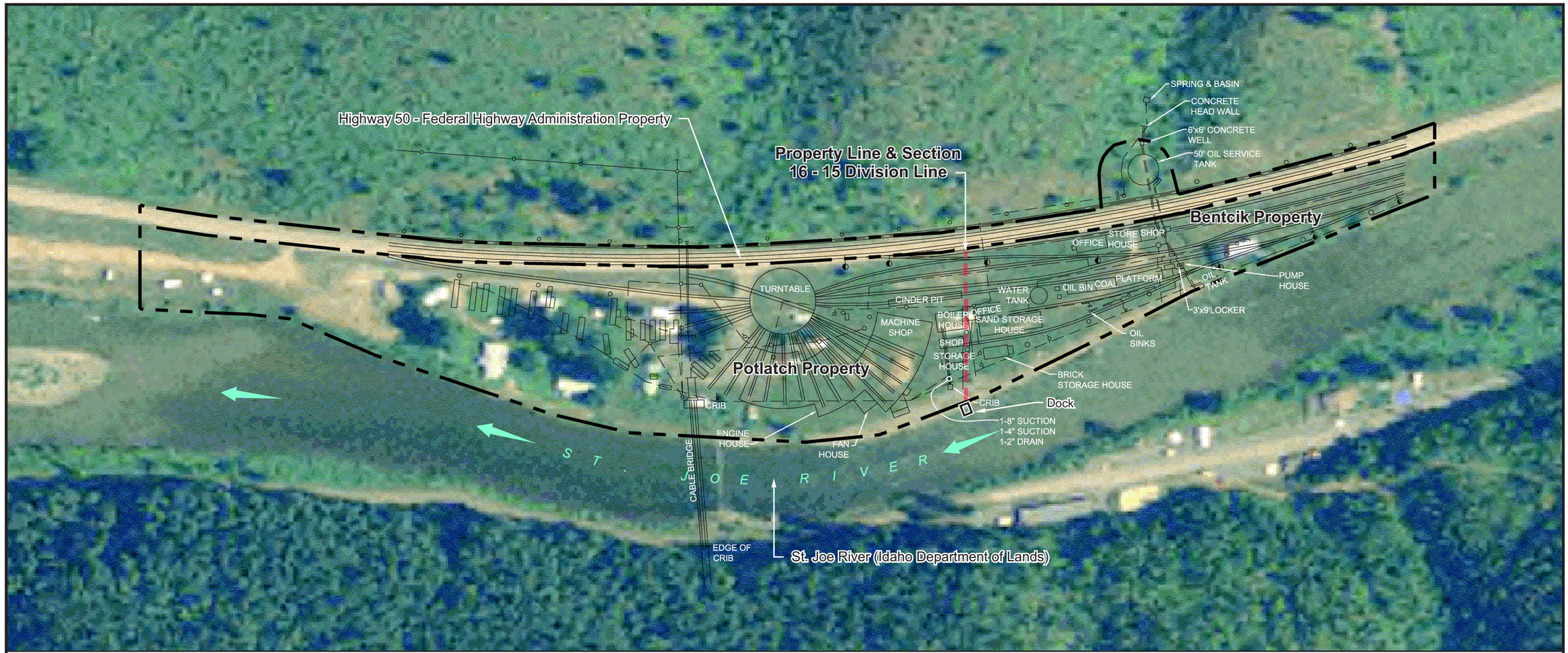

LEGEND:

- HISTORICAL RAILROAD TRACKS
- HISTORICAL FEATURES
- HISTORICAL PIPING

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0 160 320
SCALE IN FEET

N

AVERY LANDING SITE
Avery, Idaho

Figure 2-4
HISTORICAL RAILROAD FACILITY LAYOUT
WITH RECENT AERIAL IMAGE OF SITE

Date:	Drawn by:	
2/6/13	AES	10:START-3\12050006\fig 2-4

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Source: Golder 2010a.

Note: Aboveground structures have been removed except for the Bentcik seasonal residence and the AST and nearby shed.

LEGEND

Property Line & Section 16-15 Division Line

Site Boundary

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0 140
APPROXIMATE SCALE IN FEET

N

AVERY LANDING SITE
Avery, Idaho

Figure 2-5
SITE LAYOUT MAP

Date:	Drawn by:	
2/6/13	AES	10:START-3\12050006\fig 2-5

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3 Project Approach and Organization

EPA performed the RA from late May through October 2012, with some final Site tasks completed in November 2012. The RA was performed to prevent the release and discharge of petroleum hydrocarbons and hazardous substances to the St. Joe River and to reduce hazardous substances to acceptable human health and ecological risk-based concentrations at the Site.

3.1 Removal Action Design Approach

EPA performed the 2012 RA in accordance with the Final Draft Work Plan and Conceptual Design (E & E 2012b). Additionally, the FHWA provided EPA with a work plan for removal activities to be performed on the Highway 50 ROW and a Construction Package including design drawings and specifications for reconstruction of the highway (AMEC 2012).

3.1.1 EPA Work Plan

E & E prepared a Final Draft Work Plan and Conceptual Design, which provided a preliminary approach and conceptual design for guidance during implementation of the RA. The conceptual design consisted of the removal of contaminated soil, the stockpiling of contaminated material in containment cells, and the treatment of stormwater and groundwater associated with excavation work. Additionally, the conceptual design described the best management practices (BMPs) and other means under which the RA work would be performed.

As described in the Action Memorandum (Liverman 2011), the scope of the removal action consisted of the reduction of petroleum product and hazardous substances to acceptable human health and ecological risk-based concentrations at the Site. The removal action objectives (RAOs) developed for the Site included removing the non-functioning groundwater containment and extraction system installed by Potlatch Corporation; removing the St. Joe River bank and associated petroleum contamination; reconstruction of the river bank; removal, treatment, and/or management of LNAPL and associated hazardous substances in the subsurface of the Site; and proper off-Site disposal of any waste streams generated during the removal action.

3.1.2 FHWA Work Plan and Construction Package

AMEC Environment & Infrastructure, Inc. (AMEC) and Robert Peccia & Associates, Inc. prepared a 2012 Removal Action Work Plan for FHWA (AMEC 2012). This work plan was prepared to assist EPA with cleanup actions in the Highway 50 ROW, which EPA performed under a cost reimbursement agreement with FHWA.

The FHWA work plan contained information to explain the intent of cleanup activities under the highway ROW, including the nature and extent of contamination, the scope and description of cleanup activities, and a confirmation sampling plan. This work plan also included a Construction Package consisting of design drawings and specifications for the reconstruction of Highway 50.

3.1.3 Field Changes made to Removal Action Design and Implementation

Throughout the RA, several revisions were made to the work approach and design as EPA adapted to field conditions. Three of the more significant revisions are described below and other revisions are described in Section 4.

More contaminated material and LNAPL was encountered than originally estimated from previous investigations. Contamination extended farther to the east on the Bentcik property and in the central part of the plume area near the Bentcik-Potlatch property boundary. Additionally, a large amount of LNAPL and contaminated soil was discovered in and around the FPRS and product containment systems installed by Potlatch Corporation (see Section 4.2.1).

Varying sizes and lengths of buried demolition debris such as concrete, metal, and pipe were encountered wherever excavations were occurring. Additionally, several large subsurface concrete foundations were encountered, particularly at the Bentcik/Potlatch property boundary. Because of the large concrete foundations, an excavator with a hydraulic breaker attachment was mobilized to the Site to assist with removing the foundations. Residual quantities of petroleum product, principally diesel, was encountered within and surrounding the foundations.

The oil/water separators were removed from the water treatment system because it was determined that LNAPL could be recovered from water entering the system through the use of oil absorbent booms and pads within the excavation areas and in the weir tank. Once operation of the water treatment system was shown to meet discharge criteria without the oil/water separators, the separators were disconnected from the system and demobilized from the Site.

3.2 Project Organization and Management

3.2.1 Key Participants

The RA was performed by EPA and its contractors:

On-Scene Coordinator: The RA was performed under the supervision of an EPA On-Scene Coordinator (OSC).

Emergency and Rapid Response Services: RA cleanup work was performed by EQM under the EPA Region 10 ERRS contract.

Superfund Technical Assistance and Response Team: E & E, under an EPA Region 10 START contract, provided on-Site technical assistance, collected environmental samples, and documented Site activities.

3.2.2 Project Management

The EPA RA was performed under the direction of an EPA OSC, with support provided by EPA's ERRS and START contractors, as well as FHWA personnel. The EPA and FHWA work plans were largely conceptual design documents, thus the key participants and other staff involved with the work interacted on a daily basis to manage the removal action.

3.3 Project Funding, Accounting and Costs

The total 2012 project ceiling was $10,000,000, and the funding sources and amounts are summarized below.

Source	Amount
EPA	$4,000,000
FHWA	$4,250,000
Potlatch	$1,750,000
Total 2012 Project Ceiling	$10,000,000

3.3.1 Funding Sources

EPA funded cleanup of the Bentcik property.

EPA and FHWA entered into an Interagency Agreement (IA) in 2012. Under this IA, FHWA provided funding for EPA to perform that portion of the RA which was necessary for the Highway 50 right-of-way owned by the United States of America and administered by the FHWA.

EPA and Potlatch entered into an Administrative Order on Consent (AOC) in May 2012. Under this AOC, Potlatch provided funding to EPA to perform a portion of the RA on the Potlatch property and the adjacent IDL property.

In April 2012, IDL executed a consent for entry for the segment of the St. Joe River bed and banks below the ordinary high water mark affected by the RA. IDL was unable to fund EPA to perform the RA on their land.

3.3.2 Accounting

Because of the multiple funding sources for the separate properties involved in the RA, the following accounting plan was developed to track and charge costs to the appropriate funding source:

- **Direct costs**: Costs related to property-specific EPA, START, and ERRS activities such as project planning, design, implementation, and close-out, as well as hourly and daily property-specific ERRS activities such as the quantity of overburden material excavated and set aside for reuse, the quantity of contaminated material excavated and transported off-Site for disposal, the quantity of materials brought from off-Site to backfill excavations, man-hours and equipment usage, and personnel travel, lodging, and meals.

- **Common costs**: Costs related to Site-wide EPA, START, and ERRS activities such as project management, planning, design, implementation, and close-out, equipment and personnel mobilization and demobilization, set-up (office and storage trailers, communications, utilities) and maintenance of project infrastructure (roadways), operation of the groundwater and storm water treatment system, maintenance of erosion and sediment control and storm water best management practices, environmental monitoring, security, and personnel travel, lodging, and meals.

3.4 Project Schedule

EPA performed the RA from May 29 through October 16, 2012, with final Site restoration tasks performed in November 2012. A summary of the 2012 removal timeline is provided in Table 3-1.

Table 3-1 2012 Removal Timeline

Activity	Date
EPA, ERRS, and START mobilized to the Site and began Site preparation activities, including setup of command post and support area, development of access and by-pass roads, and construction of water treatment system and containment cells.	May 29 – June 13, 2012
Initiated water treatment system operation.	June 11 – June 20, 2012
Excavated the FHWA Highway 50 ROW area.	June 11 – July 24, 2012
Operated the water treatment system at full capability.	June 20 – September 13, 2012
Hauled contaminated material off-Site for disposal.	July 5 – October 9, 2012
Highway subcontractor imported material and reconstructed Highway 50 ROW.	July 13 – August 10, 2012
Prepared, excavated, and backfilled the Bentcik, Potlatch and IDL areas immediately along the St. Joe River.	July 16 – August 16, 2012
Excavated the Bentcik property and Potlatch transition areas.	August 11 – September 12, 2012
Placed backfill material to the Bentcik, Potlatch, and FHWA excavation areas.	August 15 – October 10, 2012
Performed decontamination and demobilization of the water treatment system.	September 13 – 22, 2012
START demobilized from the Site.	October 1, 2012
Performed Site restoration activities (regraded borrow area, regraded Bentcik property, seeded property).	October 8 – 15, 2012 and
ERRS demobilized from the Site.	October 16, 2012
Returned to the Site to perform final restoration activities (final grading, removed clean wood pile, relocated Bentcik cabin, final cabin driveway construction and top soil repair).	November 12 – 16, 2012

4 Removal Activities

This section describes the RA activities that took place between May 30 and October 16, 2012, and November 12-16, 2012. The Site layout prior to, and during the RA are depicted in Figures 4-1 and 4-2 respectively. Photographs taken throughout the RA are presented in Appendix A.

4.1 Preparation and Mobilization

The following subsections describe the Site improvements to prepare for the RA.

4.1.1 Utility Locate and Services

Prior to initiating work at the Site, personnel coordinated with local utility companies to identify aboveground and below ground utilities and to obtain service for the temporary on-Site facilities utilized during implementation of the RA.

4.1.2 Clearing and Grubbing

A limited amount of clearing and grubbing and leveling was performed to prepare the Site for the temporary facilities such as office trailers, temporary equipment storage containers, and water treatment facilities.

4.1.3 Construction Site Layout

The locations of the temporary facilities are shown in Figure 4-2. All facilities were established in locations that would not interfere with construction operations or traffic flow.

4.1.4 Control and Regulation of Traffic

A temporary two-lane gravel bypass (detour) road was constructed for highway traffic use while the highway portion of the Site was excavated and the roadway was reconstructed. A traffic control company was subcontracted to provide signage, traffic control devices, and flaggers for traffic management.

4.1.5 Site-related Access

A pre-existing ramp off of Highway 50 was used as the main access onto the Site. Additionally, an existing unpaved roadway was improved with gravel and utilized as the main on-Site haul road between the excavation area and containment cells. Site access roads used during the RA are depicted in Figures 4-3 and 4-4.

4.1.6 Security

A security company was subcontracted to provide Site security during periods when work was suspended such as overnight and Sunday. Security personnel were not used while the water treatment facility was continuously operated and staffed by Site personnel at night and on weekends.

4.1.7 Bentcik Cabin Relocation

The Bentcik Cabin was temporarily relocated approximately 600 feet east of its permanent location to provide sufficient space for removal activities. The cabin was moved by an ERRS-subcontracted firm that specialized in moving structures. The cabin was lifted on supports and

transported to the eastern end of the property, where it remained until the Site work was completed.

4.1.8 Communications

Satellite dishes were installed for the duration of the project to provide internet access, and landline telephones were also installed in the office trailers. During daily operations, workers used hand-held radios for on-Site communications.

4.2 Site-Wide Removal Activities

The following subsections describe the general activities which were conducted on a daily basis throughout the RA.

4.2.1 Excavation and Backfill

The following procedure was developed for the removal of contamination to the maximum extent practicable. The procedure was based on available information and best professional judgment that considered Site-specific conditions and field measurements.

Based on initial field observations including the presence of oil, oil-stained soil, visible oil sheen, and petroleum odors, the subsurface soil was considered clean from the surface to approximately 10 feet below ground surface (bgs), and this clean overburden material was set aside for later reuse as backfill material. Beginning at approximately 10 feet bgs, the subsurface soil was considered contaminated, and this contaminated material was excavated to an average depth of 20 feet.

The soil was excavated in approximate 3- to 5-foot lifts to allow for field observation and verification of the assumed depths of clean material and contaminated material. As the excavation progressed west toward the center of the Site, contaminated soil was increasingly encountered closer to the ground surface; in some instances as shallow as 2 feet bgs. In some locations, alternating layers of clean versus contaminated material was encountered (e.g., surface to 3 feet bgs clean, 3 to 6 feet bgs contaminated, 6 to 10 feet bgs clean, and 10 feet to depth contaminated).

The effectiveness of the field measurements and the field screening procedure was evaluated throughout the removal process and was changed, where appropriate. Field screening is discussed in further detail in Section 5.1.4.

The excavated soil was transported to the on-Site contaminated soil containment cells (see Section 4.2.2) where the soil was allowed to dry and was later loaded onto vehicles and transported off-Site for disposal.

Varying sizes and types of demolition debris, including concrete foundations, broken concrete, metal, pipe, and asbestos-cement pipe were encountered throughout the excavations. Each of these subsurface features were addressed individually. For example: concrete was set aside or broken into smaller, more manageable pieces which were also set aside, cleaned, and reused as backfill placed above the water table; metal debris was cleaned and recycled; and the asbestos-cement pipe was disposed of off-Site. Greater than expected quantities of petroleum product was

encountered in the vicinity of the extraction trenches and recovery wells installed by Potlatch Corporation as part of the 1994 FPRS and the impermeable vertical wall and collection wells installed as part of the 2000 product containment barrier. Additionally, monitoring wells and PVC "stick-up pipes" located in the area of excavation were removed when encountered.

Approximately 23,780 cubic yards (yd^3) of clean fill material was obtained from off-Site borrow sources from several stockpile locations along Shoshone County-maintained area roads. The borrow materials were used on-Site as supplemental clean backfill material and to construct infrastructure features such as the contaminated material containment cells, equipment pads, and the bypass roadway. For the reconstruction of Highway 50, specific types of subgrade materials were procured from local off-Site suppliers as specified by the FHWA Construction Package.

During backfilling, Allwest Testing and Engineering performed compaction testing of backfilled areas. The compaction tests were required to be 90% of maximum dry density for soil backfill, based on ASTM D 1557-07 Modified Proctor Test. Density tests were performed incrementally at two foot lifts as the excavations were backfilled. The Proctor and moisture/density test results are found in Appendix B and indicate that the compaction requirements were met.

4.2.2 Contaminated Material Containment Cells

Three containment cells were constructed to stockpile contaminated material and to allow it to dry prior to being hauled for off-Site for disposal. Each containment cell was constructed by excavating approximately 1 foot bgs and using the excavated material to construct a 2 to 3-foot berm around the perimeter, which created an inside area approximately 50 feet wide and 200 feet long. The interior of each containment cells was constructed with approximately 4 inches of ¾ inch gravel base to protect the 12 mil reinforced polyethylene liner overlain by 6 inches of gravel. A second layer of 12-mil liner was placed as a visual marker. Each layer of liner was one piece made specifically for the Site, eliminating potential issues with seams. Each containment cell was also constructed with a 6-foot high ramp, using ecology blocks to provide support under the weight of the haul trucks.

Soil drying was an essential aspect of the waste management because it allowed the weight of the contaminated soil to decrease, thus lowering transportation and disposal costs. Each containment cell was constructed so that any water runoff from the contaminated soil was retained and could be collected for treatment in the water treatment system. However, while much of the contaminated soil in the containment cells was wet, especially when excavated near the groundwater table, most of the drying occurred through material mixing and evaporation, and no runoff was observed in the containment cells during the RA. Additionally, the stockpiled materials in the containment cells were covered with polyethylene sheeting in advance of rain events to prevent infiltration. The containment cells were inspected daily to ensure that no contamination was escaping the cells. As the contaminated material was emptied from the cells and hauled off-Site for disposal, the liner was inspected and when necessary, minor tears were repaired. The containment cells locations are found in Figure 4-3.

At the beginning of the RA, a wheel wash unit was installed along the haul road to the west of the containment cells, to be used to clean the wheels and tires of the trucks that were transporting the contaminated materials off-Site for disposal. The wheel wash unit was used for a brief period

of time, but EPA determined that Site traffic controls and BMPs such as the rock ramp leading from the loading area to the highway were sufficient to prevent the on-road trucks from contacting contaminated material, so use of the wheel wash was discontinued.

4.2.3 Water Treatment System

Stormwater and excavation dewatering were managed on a Site-wide basis and included treatment, testing, and discharge or reuse of all Site stormwater and groundwater. The temporary water treatment system was designed to treat a minimum flow of 70 gallons per minute (gpm), with a maximum capacity of 250 gpm, based on an estimate of the volume of groundwater anticipated in the excavated areas. The water treatment system consisted of one 20,000-gallon weir tank, three 250-gallon oil/water separators, three 20,000-gallon settling tanks, four 100-gallon sand filter tanks, eight 20-gallon sock filters, two 5,000-pound granular activated carbon (GAC) tanks, ten 20,000-gallon effluent holding tanks, and a discharge diffuser. Once operational parameters were established and it was demonstrated that the system met the Site treatment criteria, the treated water was discharged to the St. Joe River or was used on-Site for dust suppression and other Site-related activities.

Operations and maintenance of the water treatment system was performed by dedicated personnel. Throughout the RA, adjustments were made to the water treatment system to optimize its performance. For example, once the operational criteria had been established and the system was operating and discharging on a continual basis, the number of effluent holding tanks was decreased from ten to five because that amount of treated water storage capacity was no longer necessary.

Another adjustment to the system involved the pumps used at the excavation areas. Early in the RA, the pumps required for the treatment system were upsized to overcome the hydraulic head necessary to pump from the excavation pit to the water treatment system as well as push the water through the treatment system. Additionally, the water treatment system was operated on a 24-hour, seven-day a week basis to keep groundwater in the excavation as low as possible, and this approach optimized the amount of contaminated soil that could be removed. As noted in Section 3.1.3, the use of the oil/water separators was discontinued as part of the water treatment system, because it was possible to sufficiently remove the oil with a combination of oil absorbent pads and booms in the excavation area and in the weir tank.

By the end of the RA, 15,254,600 gallons of contaminated groundwater was treated. Of this amount, 12,582,500 gallons of treated water was discharged to the St. Joe River and 2,672,100 gallons of treated water was used on-Site for fugitive dust suppression and other Site-related activities. The water treatment system can be seen in Figure 4-4.

4.2.4 Field Monitoring

Throughout Site operations, air and surface water monitoring were conducted to ensure that Site BMPs were protective of workers, the community, and the environment from short-term construction impacts such as erosion, sedimentation, and fugitive dust. Fugitive dust air monitoring was conducted daily during dry conditions using DataRam 4000 dust monitoring instruments at three locations on the Site. Surface water monitoring was conducted daily to ensure that Site operations were not impacting surface water quality in the St. Joe River at

several locations. Throughout the RA, there were no exceedances that indicated any adverse impact to air or surface water quality. The field monitoring activities are further discussed in subsection 5.1.

4.2.5 Off-Site Disposal

As contaminated material was accumulated in the containment cells, it was also being transported off-Site for disposal at the Waste Management Graham Road Recycling and Disposal facility located in Medical Lake, Washington. Contaminated material systematically filled the containment cells, and after sufficient drying, this material was loaded into trucks for off-Site transportation. Approximately 47,735 yd^3 of contaminated material was transported off-Site for disposal. Copies of disposal records were submitted by ERRS to EPA, and the records are included in the project record file at EPA.

4.2.6 Cultural Resources Evaluation

A Class I inventory (literature survey) was conducted by Applied Archaeological Research, Inc. (AAR) of the Site in 2010 (AAR 2010), and a pedestrian survey and associated fieldwork was conducted by AAR during May 2012. The recommendations from the Class I inventory report, as well as additional field activities requested by the Idaho State Historic Preservation Officer, were either performed or taken into account by AAR during the CRE field survey (AAR 2012).

The pedestrian survey identified five surface features. These features represented the architectural remains of razed structures or demolished railroad facilities such as the turntable, the roundhouse, and sections of track. AAR recommended a finding of no adverse effect for the removal action on historic properties provided the following two recommendations were followed: all personnel involved in cleanup activities be made aware that the Site is also an archaeological site that has the potential to contain buried archaeological deposits; and a cultural resource monitor observe any earthmoving or other ground-disturbing activities in the part of the Site that contains features related to the turntable and roundhouse.

At the beginning of the cleanup action, all project personnel were briefed about the historical significance of the Site, the potential for the discovery of archaeological artifacts, and the actions to be taken if suspected artifacts were identified. Workers were reminded frequently of the archaeological requirements throughout the project during daily safety and work meetings. Work performed during 2012 affected one of the five identified significant features (i.e., boiler house concrete pad), but no historical artifacts were discovered associated with this feature or during the rest of the 2012 work. However, work to be performed in 2013 will likely affect the remaining four features (i.e., bay stall, railroad tracks to storage bay, turntable foundation, and railroad tracks between storage bay and turntable). Thus similar briefings about the historical significance of the Site and the actions to be taken if suspected artifacts are discovered and the presence of a cultural resource monitor when any earthmoving or other ground-breaking activities in the part of the Site containing the turntable and roundhouse will be addressed during work to be performed during 2013.

4.2.7 Surveying

Throughout the RA, Meckel Engineering & Surveying verified property boundaries and the horizontal and vertical extent of excavation. In particular, the surveyors established property

boundaries, provide accurate areal measurements of the excavation areas, and created Site topographic maps used to document 2012 cleanup activities (Appendix C).

4.2.8 Erosion and Sediment Control Best Management Practices (BMPs)

Prior to the beginning of excavation work, erosion and sediment control BMPs were installed, including silt fencing along the entire length of the Site and straw wattles on slopes where storm water was being diverted around the Site. The integrity of all BMPs were inspected daily using a checklist prepared for the Site, and surface water monitoring was conducted daily to ensure that the BMPs were effective in preventing adverse effects on the surface water quality in the St. Joe River. The results of the daily inspections and monitoring indicated that the silt fences and BMPs were maintained in good order throughout the RA, and there were no significant off-Site releases or impacts to the St. Joe River.

4.2.9 Greener Cleanup Best Management Practices (BMPs)

Greener cleanup BMPs implemented during the RA included minimizing:

- Energy consumption (e.g., used well-maintained equipment);
- Fugitive dust (e.g., recycled 2.67 million gallons of water from the treatment system to suppress dust);
- Waste generation by off-Site recycling of 160,067 pounds of scrap metal, 396 yd^3 of asphalt, as well as any suitable wood and plastics;
- Areas requiring activity or use limitations (e.g., consolidated cleanup activities thus minimized the footprint of such areas);
- Unnecessary soil and habitat disturbance (e.g., minimized the need for clearing and grubbing), and disturbed areas were stabilized with straw and seed; and
- Noise and light disturbances (e.g., operation of heavy equipment was limited to 0700 hours to 1800 hours).

4.3 Property-Specific Activities

The RA was performed on sections of four separate properties (FHWA, Bentcik, IDL, and Potlatch properties), and each had specific elements and activities, which are discussed below. Table 4-1 presents a summary of the overall and property-specific material quantities for the 2012 RA, including clean overburden, contaminated soil, and backfill. Figure 4-5 provides an overview of the excavation area during 2012 RA.

4.3.1 Federal Highway Administration (FHWA)

EPA and FHWA entered into an IA in 2012. Under this IA, FHWA provided funding for EPA to perform that portion of the RA which was necessary for the Highway 50 right-of-way owned by the United States of America and administered by the FHWA. This Highway 50 work was performed by EPA following the 2012 Work Plan and Construction Package provided by FHWA. The layout of the FHWA property and its excavation is illustrated in Figure 4-6.

Before any removal work was performed on Highway 50, a temporary two-lane bypass road consisting of a gravel base was constructed to divert public traffic around the segment of Highway 50 removed as part of the excavation activities (Figure 4-4). Routine cleaning and maintenance was performed while the temporary road was used. Routine cleaning of the nearby

portions of Highway 50 that were not excavated was also performed (e.g., using water to remove soil tracked onto the road surface and removal of debris). A traffic control company was subcontracted to provide signage, traffic control devices, and flaggers for traffic management. Additionally, a Frontier telephone line present in the ROW was temporarily relocated during cleanup activities.

Asphalt and clean overburden present above contaminated material was removed and set aside for recycling and reuse. Excavation of the contaminated material was initiated in the upgradient portion of the LNAPL plume area and was completed in the downgradient portion to prevent recontamination of backfilled soils. The depth of contaminated material in subsurface soil excavated from the Highway varied with location. For example, the depth of excavation in the eastern portion of the highway ROW extended to approximately 20 feet bgs, while the depth of excavation extended to approximately 17 feet in the central portion and approximately 13 feet in the western portion. Prior to backfilling, confirmation soil samples were collected from the bottom and sidewalls of the excavation. The portion of the ROW at the highway roadway and road shoulders was restored to the existing line and grade by a licensed road contractor (MDM Construction), and the excavated highway area and road surface was rebuilt to the plans and specifications provided in the Construction Package prepared by FHWA. The non-highway portion of the ROW was backfilled with stockpiled overburden and/or clean backfill material. Cross sections of the reconstructed highway are included in Appendix D.

4.3.2 Larry and Ethel Bentcik

The area excavated on the Bentcik property is illustrated in Figure 4-7. The Bentcik cabin was relocated to enable construction of the bypass road and excavation of contaminated material. The seasonal cabin was lifted and placed on support beams and then transported to the eastern edge of the property.

Once the highway work had been completed and the bypass road was no longer required, the excavation work was started on the Bentcik property. During excavation, a buried concrete foundation was discovered beneath the former by-pass roadway and only a few feet below ground surface. The concrete foundation measured 80 feet x 16 feet x 6 feet and was filled with petroleum product, soil, and brick debris. These contaminated materials were removed as part of the excavation work. Prior to backfilling, confirmation soil samples were collected from the bottom and sidewalls of the excavation. The excavation was backfilled to the pre-existing grade and the cabin was relocated to its original location. The highway access road from the Bentcik property and cabin driveway were reconstructed. Additionally, the unnamed drainage channel was reconstructed using pre-existing and new culvert materials and rock riprap.

4.3.3 Idaho Department of Lands (IDL)

In April 2012, IDL executed a consent for entry for the segment of the St. Joe River bed and banks below the ordinary high water mark affected by the RA. This segment is shown in Figure 4-7. The shoreline work was performed during the seasonal low river elevation period (i.e., between July 15 to September 1, 2012) to minimize negative impacts on the aquatic environment

On July 16, 2012, in preparation for installing a temporary cofferdam, clean overburden and riprap were removed from approximately 400 feet of the St. Joe River bank along the

Bentcik/IDL and Potlatch/IDL property boundaries. Large rocks and boulders were removed from the near-shore portion of the river bed, along with the submerged, wooden "dock" structure. This instream subsurface wooden feature proved to be only a wooden mat attached to the river bed by long metal pins. The temporary dam, which was water-inflated and produced from heavy gauge PVC reinforced with polyester, was used for water management associated with cleanup activities adjacent to the environmentally sensitive St. Joe River bank. Several product discharges (seeps) were observed in and among the riprap along this segment of the riverbank during the RA, and petroleum stained vegetation and sheen was periodically observed along the same segment.

The temporary cofferdam was installed from July 25-27, 2012. Sand bags were placed on the river bottom as a foundation for the cofferdam. The multiple segments of the cofferdam were lifted into place, connected, and then filled with water. Once the cofferdam was installed, absorbent boom was deployed between the cofferdam and the river bank to collect any product and sheen discharging from the river bank. While the cofferdam was able to keep most of the fast-flowing surface water out of the excavation area, it did not completely prevent water from entering the excavation area. Furthermore, the small amount of water that entered the excavation area proved to be beneficial, because the hydraulic gradient pushed the seeping LNAPL away from the river and toward the bank where it was collected using boom and sorbent pads.

The cofferdam and sand bags were removed from the St. Joe River by August 11, 2012. The large rocks that had been previously removed were returned to their approximate location, and other rocks were placed into the location of the former dock structure to fill the void created by its removal. At the former location of the dock structure, a thin layer of bentonite clay (approximately 1-inch) followed by approximately 6 to 12-inch of imported rock was placed to restore the area to the approximate grade of the surround river bottom. The purpose of the bentonite clay was to inhibit movement of subsurface petroleum that could be present in the silty sediment below the former dock structure.

4.3.4 Potlatch Property Transition Areas

EPA and Potlatch entered into an AOC in May 2012. Under this AOC, Potlatch provided funding to EPA to perform a portion of the RA on the Potlatch property and the adjacent IDL property. These areas, referred to as transition areas, were included as part of the RA to safeguard against the recontamination of cleanup work performed by EPA on the adjacent properties. The remainder of the work to be performed on Potlatch property will be completed by Potlatch during 2013.

Once work at the Bentcik, FHWA, and IDL transition areas were completed, geotextile sheeting was placed on the exposed face of the adjacent contaminated Potlatch property to help prevent recontamination and to provide a visual marker identifying the limits of excavation. The excavations were backfilled to the pre-existing grade. Additional details about the preparation of the Site for the planned part of the RA to be performed in 2013 are provided in Section 6.

Table 4-1

Removal Action Material Quantities
Avery Landing 2012 Removal Action
Avery, Idaho

Removal Action Materials	Quantities (yd^3)					
	FHWA Property	Bentcik Property	Bentcik/ IDL Transition Zone	Potlatch/ FHWA Transition Zone	Potlatch/ Bentcik Transition Zone	Potlatch/ IDL Transition Zone
Asphalt Removed and Recycled off-site	396	NA	NA	NA	NA	NA
Clean overburden removed and set aside to be reused for backfill material	14,366	5,434	3,619	726	1,210	3,289
Clean base course material used to maintain the Highway 50 bypass roadway	330	NA	NA	NA	NA	NA
Base course material used for construction of containment cells	352	NA	NA	NA	NA	NA
Contaminated material excavated and transported off-site for disposal	13,327	23,683	3,328	954	2,669	3,774
Clean road-building material obtained from off-site sources to reconstruct the roadway	21,817	NA	NA	NA	NA	NA
Clean backfill material replaced	NA	38,010	2,178	1,452	1,620	5,632
Clean riprap material removed, set aside and reused for reconstruction of the riprap	NA	NA	1,056	NA	NA	616
Clean riprap replaced	NA	NA	NA	NA	NA	429

Key:

FHWA = Federal Highway Authority
IDL = Idaho Department of Lands
NA = Not applicable
yd^3 = cubic yards

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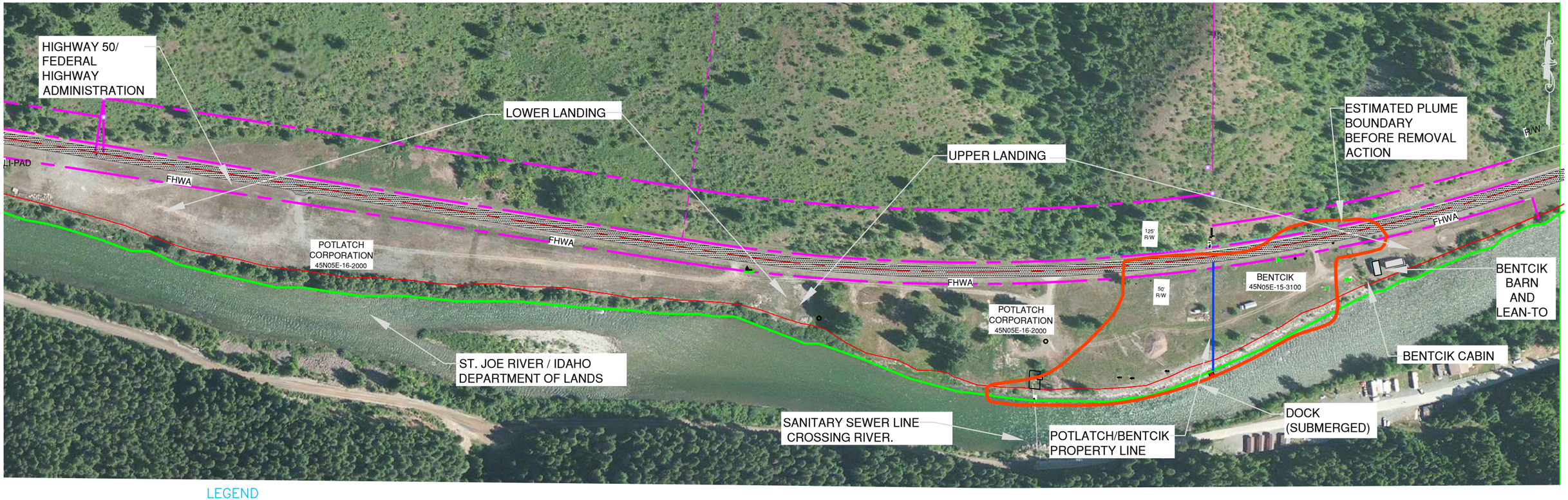

LEGEND

- CENTERLINE HIGHWAY 50
- POTLATCH/BENTCIK PROPERTY LINE
- RIVER EDGE JULY 2011
- ESTIMATED PLUME AREA
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE
  FEDERAL HIGHWAY ADMINISTRATION

230' 0 230' 460'

1" = 230'

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ecology and environment, inc
Global Specialist in the Environment
Seattle Washington

AVERY LANDING SITE
Avery, Idaho

Figure 4-1
SITE LAYOUT BEFORE REMOVAL ACTION

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01/29/13	V. GEE	10: START-3\EE-002233-079X-01TTO\fig 4-1

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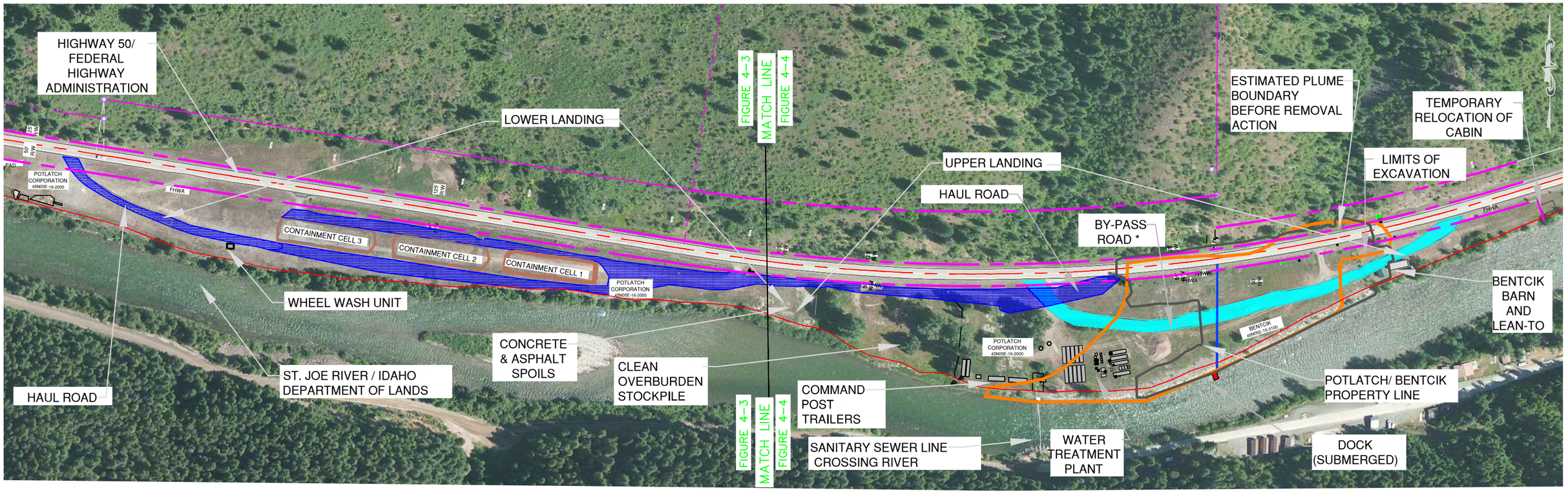

LEGEND

- CENTERLINE HIGHWAY 50
- POTLATCH/BENTCIK PROPERTY LINE
- EXCAVATION AREA
- ESTIMATED PLUME AREA
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE
  FEDERAL HIGHWAY ADMINISTRATION
- HAUL ROAD
- BYPASS ROAD

* NOTE:

THE LOCATION OF THE BYPASS ROAD WAS MOVED TO THE SOUTH SEVERAL TIMES AS EXCAVATION CONTINUED. ONCE EXCAVATION ON THE HIGHWAY RIGHT OF WAY WAS COMPLETED AND THE HIGHWAY REBUILT, THE BYPASS ROAD WAS REMOVED.

230’ 0 230’ 460’

1” = 230’

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Seattle Washington

AVERY LANDING SITE
Avery, Idaho

Figure 4-2
REMOVAL ACTION SITE LAYOUT

Date:	Drawn by:	10: START-3\EE-002233-079X-01TTO\fig 4-2
01/04/13	V. GEE	

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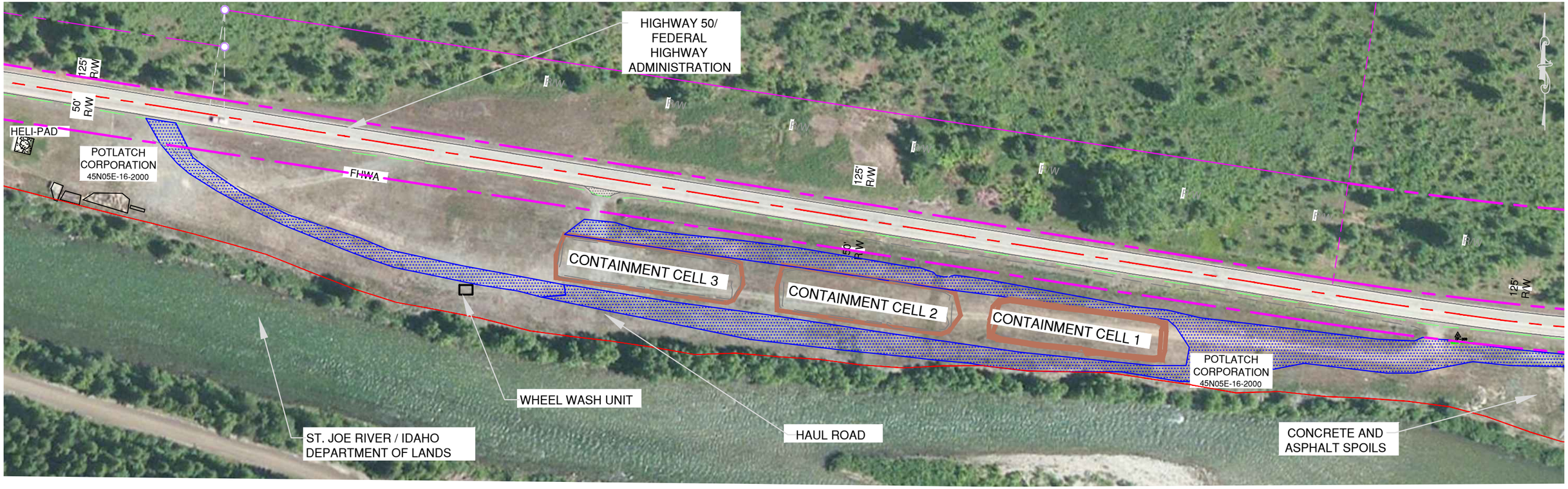

LEGEND

- CENTERLINE HIGHWAY 50
- POTLATCH/BENTCIK PROPERTY LINE
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE FEDERAL HIGHWAY ADMINISTRATION
- HAUL ROAD

120' 0 120' 240'

1" = 120

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AVERY LANDING SITE
Avery, Idaho

Figure 4-3
LOWER LANDING SITE DETAIL

Date:	Drawn by:	
01/04/13	V. GEE	10: START-3\EE-002233-079X-01TTO\fig 4-3

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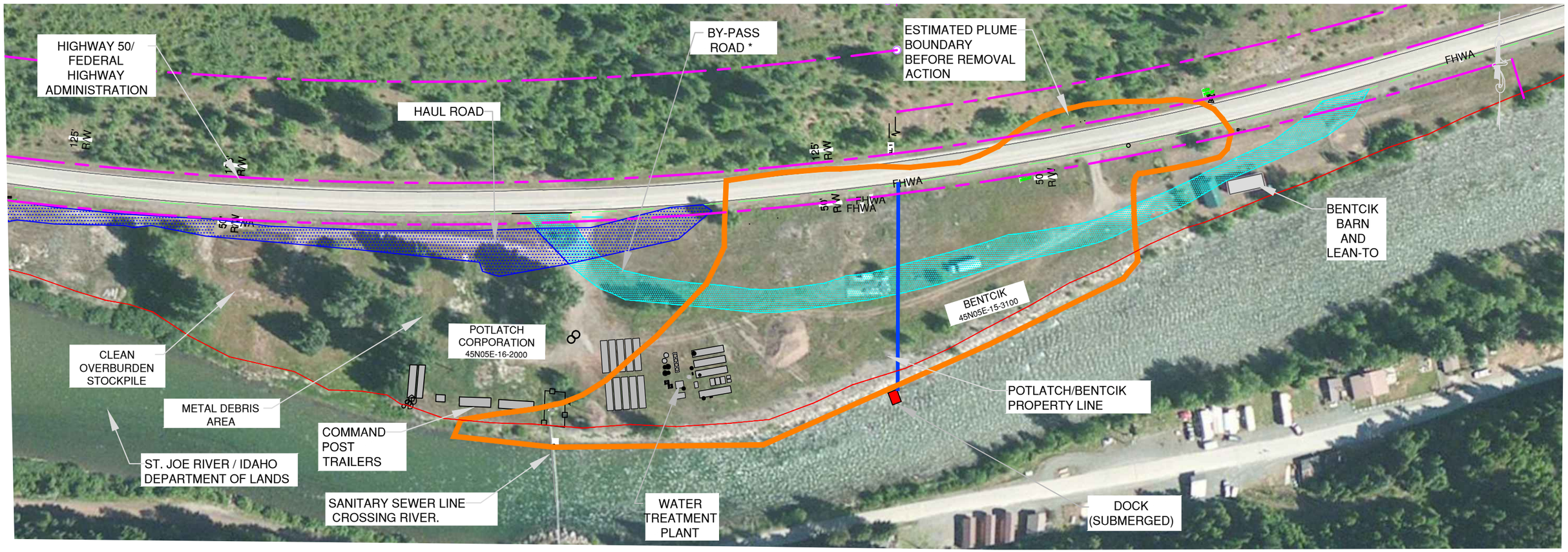

LEGEND

- CENTERLINE HIGHWAY 50
- POTLATCH/BENTCIK PROPERTY LINE
- ESTIMATED PLUME AREA
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE FEDERAL HIGHWAY ADMINISTRATION
- HAUL ROAD
- BYPASS ROAD

* NOTE:

THE LOCATION OF THE BYPASS ROAD WAS MOVED TO THE SOUTH SEVERAL TIMES AS EXCAVATION CONTINUED. ONCE EXCAVATION ON THE HIGHWAY RIGHT OF WAY WAS COMPLETED AND THE HIGHWAY REBUILT, THE BYPASS ROAD WAS REMOVED.

120' 0 120' 240'

1" = 120

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AVERY LANDING SITE
Avery, Idaho

Figure 4-4
UPPER LANDING SITE DETAIL

Date:	Drawn by:	
01/04/13	V. GEE	10: START-3\EE-002233-079X-01TTO\fig 4-4

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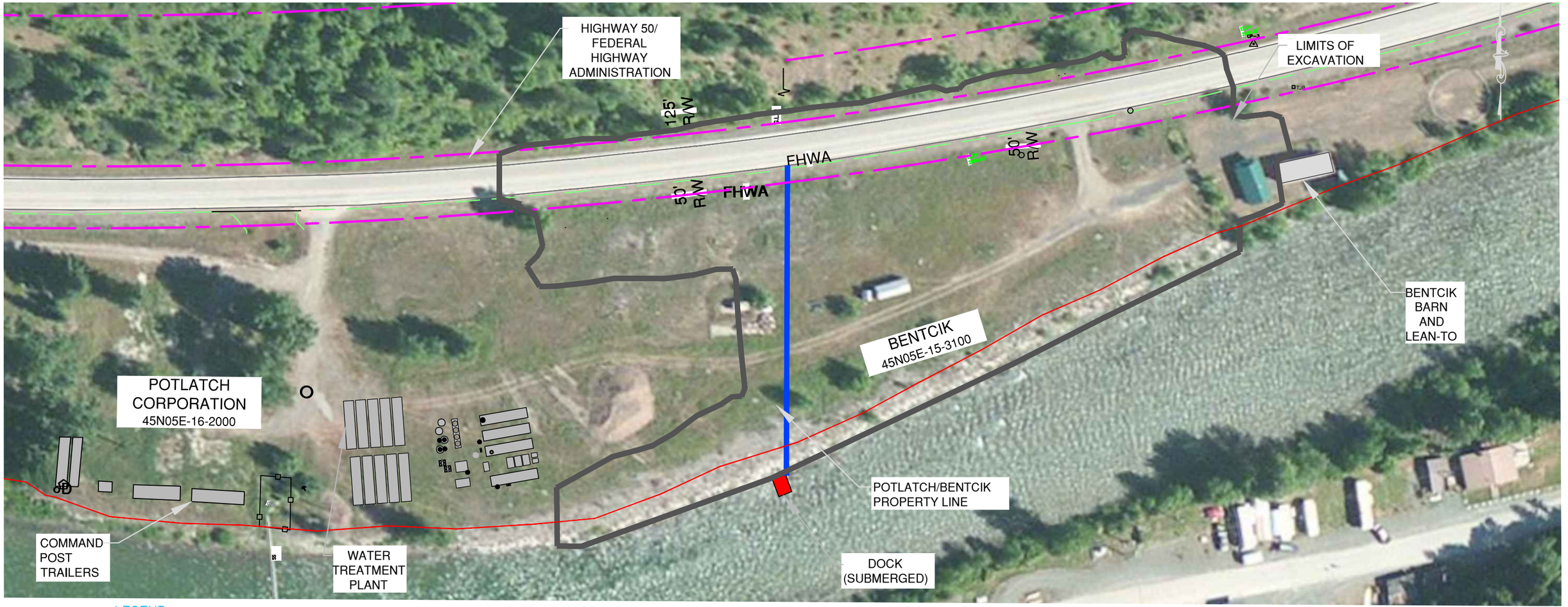

LEGEND

- CENTERLINE HIGHWAY 50
- POTLATCH/BENTCIK PROPERTY LINE
- EXCAVATION AREA
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE
  FEDERAL HIGHWAY ADMINISTRATION

80' 0 80' 160'

1" = 80'

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AVERY LANDING SITE
Avery, Idaho

Figure 4-5
2012 EPA EXCAVATION AREA

Date:	Drawn by:	10: START-3\EE-002233-079X-01TTO\fig 4-5
01/04/13	V. GEE	

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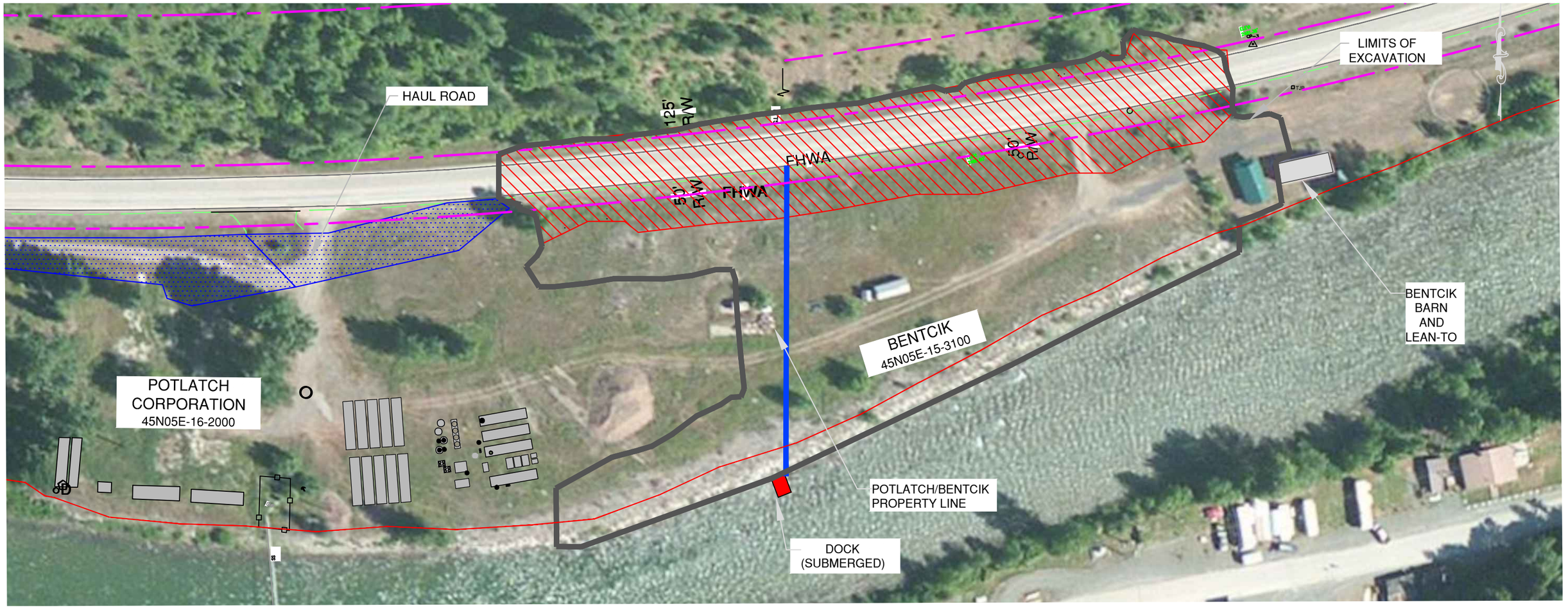

LEGEND

- POTLATCH/BENTCIK PROPERTY LINE
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE FEDERAL HIGHWAY ADMINISTRATION
- EXCAVATION AREA
- FEDERAL HIGHWAY ADMINISTRATION EXCAVATION AREA
- HAUL ROAD

80’ 0 80’ 160’

1” = 80’

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AVERY LANDING SITE
Avery, Idaho

Figure 4-6
FHWA EXCAVATION AREA

Date:	Drawn by:	10: START-3\EE-002233-079X-01TTO\fig 4-6
01/04/13	V. GEE	

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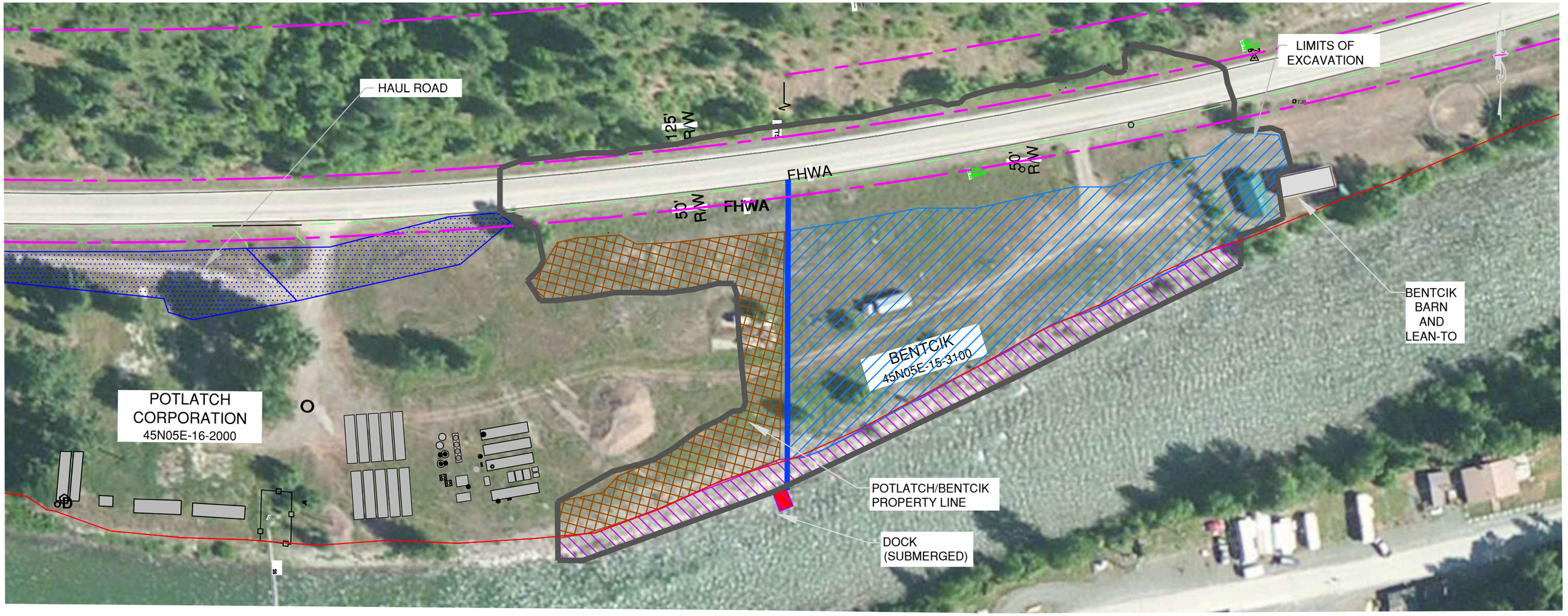

LEGEND

- POTLATCH/BENTCIK PROPERTY LINE
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE FEDERAL HIGHWAY ADMINISTRATION
- EXCAVATION AREA
- HAUL ROAD
- BENTCIK PROPERTY EXCAVATION AREA
- IDAHO DEPARTMENT OF LANDS EXCAVATION AREA
- POTLATCH TRANSITION ZONE EXCAVATION AREA

80' 0 80' 160'

1" = 80'

R:\START\Avery\Survey DWG\Survey Info\ AVERY FINAL VG 11X17 2013.dwg

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Seattle Washington

AVERY LANDING SITE
Avery, Idaho

Figure 4-7
POTLATCH, BENTCIK & IDAHO DEPARTMENT OF LANDS EXCAVATION AREA

Date:	Drawn by:	
01/04/13	V. GEE	10: START-3\EE-002233-079X-01TTO\fig 4-7

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5 Field Monitoring and Sampling

5.1 Field Monitoring Activities

During the RA, Site personnel monitored the integrity and effectiveness of Site BMPs, and START performed specific field monitoring and inspections to ensure the effectiveness of the BMPs. START also performed field monitoring to support removal decisions.

5.1.1 Daily Fugitive Dust Monitoring

Fugitive dust monitoring was conducted daily during dry weather conditions at the Site, using DataRam 4000 dust monitoring instruments. The DataRams were not deployed during rainy conditions to protect the instruments and because the rain suppressed fugitive dust.

Daily dust monitoring was performed at three locations, including east, middle, and western portions of the Site. The locations at the eastern and western edges of the Site were selected to monitor for fugitive dust potentially leaving the Site, and the middle location near the bypass road was selected because of its central location and proximity to the command post, the water treatment system, and most other Site activities. The nomenclature for the locations used from the eastern to western portions of the Site was East (eastern end of the Site), ByPass (middle/central location), and Cells (western end of the Site), respectively. The daily time-weighted average (TWA) values for each location are found in Table 5-1. Over the course of the RA, the monitoring results indicated a low concentration of particulates in the air, demonstrating that the dust suppression activities were effective. The daily fugitive dust monitoring locations are depicted in Figure 5-1.

5.1.2 Daily Surface Water Monitoring

Surface water monitoring was conducted daily throughout Site operations to ensure that Site operations were not impacting surface water quality in the St. Joe River. The surface water monitoring was conducted at four locations: upstream from the Site, at the unnamed creek which flowed into the St. Joe River near the location of the Bentcik cabin, at the command post trailers approximately 50 yards downstream of the water treatment outlet, and downstream near the western most property boundary of the Site. When the unnamed creek was restored to its channel and no longer diverted around the excavation, field monitoring at this location was discontinued. The daily results for the parameters of concern are found in Table 5-2. The daily surface water monitoring locations are depicted in Figure 5-1.

5.1.3 Daily BMP Inspections

The daily BMP inspections consisted of inspecting the silt fences, straw wattles, the contaminated soil containment cells, as well as the overall Site to ensure that the Site stabilization measures were maintained with all aspects of the work plan. The results of the daily inspections were recorded on daily BMP inspection checklists. BMPs were maintained in good working order throughout the RA, and there were no off-Site releases.

5.1.4 Field Screening of Contaminated Soil

Field screening of the contaminated soil was performed to support removal decisions. Field screening included the petroleum sheen test and the paint filter test.

The petroleum sheen test was performed on samples of soil from the excavation areas to confirm the presence of petroleum contamination The sheen test was performed by adding 100 milliliters of water to 50 grams of the soil in a bowl, and then observing the water for evidence of sheen such as a film of oil on the surface of the water or the presence of a rainbow sheen. A positive result was recorded when a rainbow sheen or a visible product layer was observed on the water. The results of the petroleum sheen test of potentially contaminated materials from the excavation area were used in conjunction with other observations (e.g., the presence of free-phase petroleum, oil-stained soil, visible oil sheen, petroleum odor, etc.) to establish a benchmark for identifying contaminated material requiring removal and eventual off-Site disposal.

Field paint filter tests were performed on samples of the contaminated soil stockpiled in the containment cells to ensure that the soil did not contain an excess amount of moisture and therefore were suitable for transportation to the off-Site landfill. The paint filter test was conducted in accordance with SW-846 method 9095B by placing a 100-gram aliquot of the soil sample in a 60-mesh filter and waiting five minutes for any liquid to pass through the filter. If no liquid passed through the filter during the testing period, the soil passed the test and was considered appropriate for transport off-Site for disposal, per the landfill's criteria. Per the requirements of the landfill, 10 samples were collected and tested for the paint filter from the initial 2,000 yd^3 of contaminated soil to confirm the waste disposal profile. All 10 samples passed the paint filter test.

5.2 Field Sampling Activities

During the RA, START collected soil and water treatment samples in accordance with the Site-Specific Sampling Plan (SSSP) (E & E 2012c) and Sampling Plan Alteration Form (SPAF) (E & E 2012a). Table 5-3 summarizes the sample collection information and the analytical parameters for each sample. Site samples were collected and analyzed for one or more of the following analytical parameters at off-Site laboratories.

Soil samples were analyzed for:

- Diesel- and oil-range organics using Extended Diesel Range Total Petroleum Hydrocarbons (NWTPHDx);
- SVOCs using EPA Method 8270;
- VOCs using EPA Method 8260;
- PCBs using EPA Method 8062; and
- Toxicity Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act (RCRA) Metals using EPA Method 1311/6000/7000 Series.

Water samples were analyzed for:

- SVOCs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, chrysene, diphenylamine, bis(2-ethylhexyl)phthalate) using EPA Method 625;
- Metals (arsenic, cadmium, chromium, copper, lead, thallium and zinc) using EPA Method 200.8; and
- PCBs using EPA Method 608.

Samples were collected and analyzed in accordance with the SSSP, and as amended by the SPAF (E & E 2012a). During the course of the RA, several changes were made to the SSSP, which

were documented in the SPAF. The changes documented in the SPAF included the collection of six composite soil samples from the Site to establish baseline conditions; changes to the water treatment discharge sample location, treatment criteria, and reporting limits to better represent the discharged water and laboratory reporting limits; and changes to the landfill's required analyses for stockpiled contaminated soil. The Site samples and analyses are discussed in the following subsections.

Complete analytical data summary tables for each sampling phase, as described in the following subsections, are presented in Appendix E, and the analytical data reports and their respective data validation memoranda are located in Volume II. The following subsections discuss the sampling and analytical activities for each Site phase/activity. Positively detected data summary tables which only include detected compounds are included in this section of the report and are referenced in the following subsections.

5.2.1 Site-Wide Baseline Soil

Prior to excavation activities, soil samples were collected to establish baseline Site conditions. Baseline soil samples included six Site-wide composite soil samples, clean overburden material removed from the excavation areas, and material obtained off-Site for use as backfill. The locations of these samples are indicated on Figure 5-2, and Table 5-4 includes a summary of the results (detected compounds only).

5.2.2 Contaminated Soil

The contaminated soil in the containment cells was sampled to establish a waste profile for the disposal facility. START collected 10 samples during the first 2,000 yd^3, and then subsequently sampled once every 5,000 yd^3 to demonstrate that the waste profile was remaining consistent throughout the RA. After the first 10 samples were collected, the waste disposal facility no longer required that TCLP RCRA Metals and VOC analyses be performed, and the SVOC and PCB analyses would be sufficient. Table 5-5 includes a summary of the results (detected compounds only).

5.2.3 Post-Excavation Soil

After the excavation activities were completed in a specific area, the walls and floors of the excavated areas were sampled to document post-removal conditions. The FHWA excavation floor was sampled once for every 5,000 ft^2 as well as once for every 300 lateral feet for the excavation walls in accordance with the FHWA work plan. The excavation areas on the other properties were sampled every 15,000 ft^2 in accordance with the EPA work plan. The locations of the post-excavation soil samples are indicated on Figure 5-3, and Table 5-6 includes a summary of the results (detected compounds only).

5.2.4 Water Treatment

Once the water treatment system was fully assembled and operational, samples were collected and analyzed to demonstrate that the system could meet the Site treatment criteria, which were based on Idaho Surface Water Quality Criteria. Water treatment system influent and effluent samples were collected after the first 16,000 gallons, 50,000 gallons, and 68,000 gallons of water treatment. After the water treatment system was demonstrated to have obtained the Site treatment criteria, the frequency of the sampling was reduced to weekly effluent samples and monthly

influent samples. Table 5-7 includes the water treatment results in comparison to the Site treatment criteria.

During the course of the RA, all effluent samples met the Site treatment criteria with three exceptions. One SVOC contaminant, bis(2-ethylhexyl)phthalate, was detected in two of the 16 effluent samples. This is a common cross-contaminant associated with plastic materials such as PVC piping. Additionally, zinc was detected in exceedance of the Site treatment criteria in one of the 16 effluent samples.

5.2.5 Recovered Product

Samples of the product recovered by the water treatment system were collected and analyzed for waste disposal profiling.

5.2.6 Infiltration Trench

Samples from two locations in the infiltration trench north of the highway were collected and analyzed to document the level of contamination caused by the reinjection of untreated groundwater from the FPRS. The locations of these soil samples are indicated on Figure 5-4, and Table 5-8 includes a summary of the results (detected compounds only).

5.2.7 Others

Nine trip blank samples were submitted in conjunction with the VOC samples. All of the trip blanks results were below detection limits.

A sample of the GAC from the water treatment system was submitted for analysis to determine whether the GAC could be reactivated and reused or if it would require disposal. These results are included in Volume II.

Table 5-1

Summary of Daily Dust Monitoring
Avery Landing 2012 Removal Action
Avery, Idaho

Date	Time-Weighted Average Results (µg/m3)		
	Cells (West)	Bypass Road	East End
6/19/2012	NDR	4	5
6/20/2012	1	7	4
6/21/2012	13	10	6
6/22/2012	5	19	8
6/23/2012	2	9	4
6/25/2012	3	10	15
6/27/2012	3	6	5
6/28/2012	6	5	1
6/29/2012	4	5	5
7/5/2012	NDR	3	NDR
7/11/2012	NDR	NDR	18
7/12/2012	16	NDR	23
7/13/2012	18	NDR	13
7/16/2012	7	12	7
7/17/2012	6	NDR	5
7/18/2012	15	11	7
7/19/2012	13	13	7
7/20/2012	24	22	17
7/21/2012	29	17	9
7/23/2012	19	12	8
7/24/2012	18	6	3
7/25/2012	10	3	5
7/26/2012	8	11	8
7/27/2012	21	10	9
7/28/2012	41	32	21
7/30/2012	22	18	13
7/31/2012	15	16	10
8/1/2012	17	13	7
8/2/2012	15	12	10
8/3/2012	5	9	3
8/6/2012	13	12*	7
8/7/2012	10	18	8
8/8/2012	18	22	12
8/9/2012	28	40	6
8/10/2012	8	64	7
8/11/2012	12	9	9
8/13/2012	21	23	19
8/14/2012	46	44	42

Table 5-1

Summary of Daily Dust Monitoring
Avery Landing 2012 Removal Action
Avery, Idaho

Date	Time-Weighted Average Results (µg/m3)		
	Cells (West)	Bypass Road	East End
8/15/2012	21	19	13
8/16/2012	24	9	17
8/17/2012	13	13	7
8/18/2012	26	8	8
8/20/2012	31	25	16
8/21/2012	18*	17*	15*
8/22/2012	18	13	26
8/23/2012	9	7	9
8/24/2012	7	5	12
8/25/2012	5	10	17
8/27/2012	34	30	50
8/28/2012	27	26	31
8/29/2012	9	7	16
8/30/2012	9	5	5
9/5/2012	8	9	12
9/6/2012	11	13	4
9/7/2012	8	6	5
9/8/2012	12	17	16
9/10/2012	NDR	28	27
9/11/2012	15	23	NA
9/12/2012	22	11	NA
9/13/2012	20	11	NA
9/14/2012	74	69	NA
9/15/2012	102	93	NA
9/17/2012	22	16	NA
9/18/2012	18	20	NA
9/19/2012	49	71	48
9/20/2012	71	83	59
9/21/2012	53	79	47
9/22/2012	69	101	66

Notes

Results are rounded to the nearest integer.

* A manual calculation for the average was performed

Key

µg/m^3 = micrograms per cubic meter

NA = Data was accidentally logging scatter instead of mass.

NDR = No data was recorded that day.

Table 5-2

Surface Water Monitoring Results
Avery Landing 2012 Removal Action
Avery, Idaho

Date	Time	Location ID	Results				
			pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)
6/16/2012	NR	Downstream	5.40	0.044	NR	NR	9.35
6/16/2012	15:31	Upstream	6.03	0.044	0.4	15.40	9.28
6/16/2012	15:37	Unnamed Stream	6.04	0.044	0.2	15.15	9.38
6/16/2012	16:16	Mid-Site	8.18	0.053	2.2	15.92	12.96
6/18/2012	16:50	Downstream	7.68	0.042	4.2	14.07	10.36
6/18/2012	17:00	Unnamed Stream	7.44	0.044	0.0	16.16	9.52
6/18/2012	17:05	Upstream	7.18	0.076	1.3	14.61	9.84
6/18/2012	17:15	Downstream	7.04	0.109	0.0	14.46	9.92
6/19/2012	14:49	Downstream	7.41	0.043	6.3	14.07	7.67
6/19/2012	14:58	Unnamed Stream	7.18	0.051	7.6	13.50	8.16
6/19/2012	15:07	Upstream	6.94	0.044	2.2	14.21	7.16
6/19/2012	15:17	Mid-Site	6.72	0.098	13.9 (1)	10.89	8.64
6/20/2012	15:25	Mid-Site	7.68	0.102	2.7	12.43	11.30
6/20/2012	15:32	Downstream	6.89	0.045	2.3	12.61	10.41
6/20/2012	15:44	Unnamed Stream	7.21	0.046	2.1	12.61	10.38
6/20/2012	15:52	Upstream	7.27	0.049	1.0	11.89	10.81
6/21/2012	15:57	Mid-Site	7.48	0.116	4.3	13.07	12.02
6/21/2012	16:03	Downstream	6.68	0.046	0.0	11.28	11.47
6/21/2012	16:18	Upstream	6.62	0.046	0.0	11.12	11.83
6/21/2012	16:26	Unnamed Stream	6.51	0.047	1.0	11.13	11.42
6/22/2012	11:58	Mid-Site	7.09	0.053	1.8	12.77	9.56
6/22/2012	12:07	Downstream	7.24	0.051	1.0	12.04	10.20
6/22/2012	12:14	Unnamed Stream	7.23	0.049	2.5	12.33	9.50
6/22/2012	12:20	Upstream	6.85	0.047	1.9	11.88	9.51
6/22/2012	13:15	Mid-Site	7.54	0.153	1.3	9.72	13.85
6/22/2012	15:32	Downstream	6.85	0.046	0.8	11.31	11.37
6/22/2012	15:39	Unnamed Stream	6.68	0.055	1.5	10.89	11.35
6/22/2012	15:50	Upstream	6.93	0.049	0.3	11.24	11.37
6/22/2012	15:58	Mid-Site	6.74	0.129	0.5	10.47	11.37
6/23/2012	10:53	Downstream	7.05	0.046	0.9	12.12	9.91
6/23/2012	11:05	Upstream	7.02	0.047	0.5	11.94	9.35
6/23/2012	11:11	Unnamed Stream	6.91	0.047	1.9	11.67	9.24
6/23/2012	11:17	Mid-Site	6.91	0.081	1.9	11.47	10.04
6/25/2012	9:37	Downstream	6.49	0.049	0.0	13.16	10.51
6/25/2012	9:48	Unnamed Stream	6.16	0.049	0.0	12.52	8.99
6/25/2012	9:55	Upstream	6.52	0.048	0.0	12.53	9.29
6/25/2012	10:02	Mid-Site	6.57	0.053	1.0	12.54	9.64
6/27/2012	8:38	Downstream	6.37	0.048	0.0	12.76	7.60
6/27/2012	8:49	Unnamed Stream	6.34	0.049	0.0	12.58	7.45
6/27/2012	8:57	Upstream	6.39	0.048	0.0	13.91	7.42
6/27/2012	9:06	Mid-Site	6.41	0.051	0.0	11.97	7.81
6/28/2012	7:41	Mid-Site	6.42	0.054	0.0	12.76	8.14
6/28/2012	7:47	Downstream	6.21	0.049	0.0	12.44	7.74
6/28/2012	7:55	Unnamed Stream	6.34	0.050	0.0	12.84	7.54

Table 5-2

Surface Water Monitoring Results
Avery Landing 2012 Removal Action
Avery, Idaho

Date	Time	Location ID	Results				
			pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)
6/28/2012	8:03	Upstream	6.53	0.050	0.0	12.49	7.54
6/29/2012	13:34	Downstream	6.60	0.052	0.0	11.82	11.45
6/29/2012	13:43	Unnamed Stream	6.42	0.052	0.0	12.01	11.37
6/29/2012	13:52	Upstream	6.43	0.052	0.0	11.66	11.45
6/29/2012	13:59	Mid-Site	6.51	0.055	0.5	11.50	11.79
7/5/2012	NR	Upstream	7.36	0.050	0.01	11.88	12.75
7/5/2012	NR	Unnamed Stream	6.69	0.056	0.01	11.19	12.97
7/5/2012	NR	Mid-Site	6.64	0.057	0.00	11.03	12.69
7/5/2012	NR	Downstream	7.43	0.057	0.07	12.03	11.80
7/6/2012	NR	Upstream	6.21	0.060	0.00	11.25	13.79
7/6/2012	NR	Unnamed Stream	6.24	0.059	0.00	11.34	13.76
7/6/2012	NR	Mid-Site	6.72	0.059	0.00	10.85	13.90
7/6/2012	NR	Downstream	6.54	0.057	0.90	11.03	13.68
7/7/2012	NR	Upstream	6.98	0.059	0.10	12.52	13.76
7/7/2012	NR	Unnamed Stream	6.95	0.060	0.60	11.30	14.04
7/7/2012	NR	Mid-Site	6.63	0.060	0.10	12.11	14.48
7/7/2012	NR	Downstream	6.43	0.059	0.00	12.32	13.57
7/9/2012	17:20	Downstream	6.71	0.059	0.0	15.52	14.63
7/9/2012	17:25	Upstream	6.68	0.060	0.0	11.00	14.65
7/9/2012	17:30	WT Outfall	6.81	0.061	0.0	10.90	14.75
7/9/2012	17:40	Mid-Site	6.59	0.067	1.3	11.45	15.54
7/10/2012	10:30	Upstream	7.13	0.058	1.4	11.19	13.45
7/10/2012	10:50	Mid-Site	6.96	0.059	20.8	10.76	14.13
7/10/2012	10:20	Downstream	7.02	0.058	8.5	11.04	14.77
7/11/2012	15:30	Upstream	7.43	0.072	1.8	8.96	18.05
7/11/2012	15:49	Downstream	7.23	0.067	0.0	8.44	17.98
7/11/2012	16:00	Mid-Site	7.41	0.061	0.6	8.79	17.86
7/12/2012	10:00	Downstream	7.26	0.061	15.8	9.65	14.39
7/12/2012	10:20	Upstream	7.36	0.067	0.5	8.94	14.76
7/12/2012	10:23	Mid-Site	7.42	0.062	0.0	9.57	15.12
7/13/2012	15:19	Downstream	7.35	0.060	0.0	8.97	18.05
7/13/2012	15:22	Upstream	7.52	0.061	2.9	9.18	19.00
7/13/2012	15:30	Mid-Site	7.43	0.062	8.4	9.32	18.92
7/14/2012	16:10	Mid-Site	7.35	0.069	3.8	8.98	17.97
7/14/2012	16:20	Downstream	7.41	0.064	1.9	8.77	17.89
7/14/2012	16:05	Upstream	7.41	0.065	1.9	8.61	17.85
7/16/2012	13:25	Mid-Site	7.50	0.069	0.0	9.47	17.50
7/16/2012	13:35	Downstream	7.39	0.063	0.0	9.36	17.06
7/16/2012	13:45	Upstream	7.46	0.063	0.0	9.27	17.92
7/17/2012	15:00	Downstream	7.46	0.072	3.0	8.45	18.43
7/17/2012	15:15	Upstream	7.62	0.066	0.0	8.40	18.44
7/17/2012	15:20	Mid-Site	7.63	0.069	0.0	8.47	18.38
7/18/2012	14:00	Downstream	7.59	0.071	0.2	8.54	18.44
7/18/2012	14:20	Upstream	7.67	0.070	0.0	8.36	18.47

Table 5-2

Surface Water Monitoring Results
Avery Landing 2012 Removal Action
Avery, Idaho

Date	Time	Location ID	Results				
			pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)
7/19/2012	14:25	Mid-Site	7.70	0.068	0.0	8.37	15.68
7/19/2012	10:40	Downstream	6.98	0.066	6.6	8.37	15.68
7/19/2012	10:42	Upstream	7.02	0.066	2.9	8.62	15.63
7/19/2012	10:55	Mid-Site	7.09	0.067	2.0	8.83	16.00
7/20/2012	17:05	Upstream	7.63	0.067	3.1	9.17	17.46
7/20/2012	17:10	Mid-Site	7.61	0.070	5.5	8.27	17.62
7/20/2012	17:15	Downstream	7.64	0.070	2.4	8.76	17.61
7/21/2012	11:50	Downstream	7.74	0.069	0.5	9.13	16.96
7/21/2012	11:55	Upstream	7.82	0.067	0.0	9.23	16.79
7/21/2012	12:10	Mid-Site	7.79	0.067	0.0	8.77	16.97
7/23/2012	15:00	Upstream	7.86	0.067	0.0	8.88	17.60
7/23/2012	15:15	Mid-Site	7.85	0.070	0.0	8.34	17.78
7/23/2012	15:05	Downstream	7.79	0.069	0.0	8.45	17.80
7/24/2012	16:15	Downstream	7.79	0.060	5.3	8.54	17.51
7/24/2012	16:20	Upstream	7.86	0.070	0.0	8.54	17.45
7/24/2012	16:25	Mid-Site	7.84	0.069	0.0	8.45	17.59
7/25/2012	13:10	Upstream	7.94	0.094	0.0	9.49	16.76
7/25/2012	13:15	Downstream	7.62	0.068	0.0	9.50	16.86
7/25/2012	13:30	Mid-Site	7.94	0.069	3.9	9.45	17.38
7/26/2012	15:10	Downstream	7.74	0.067	1.0	8.06	16.44
7/26/2012	15:20	Mid-Site	7.82	0.072	2.8	8.78	16.80
7/26/2012	15:15	Upstream	7.81	0.067	0.0	8.72	16.46
7/27/2012	16:50	Downstream	7.84	0.073	0.3	8.46	18.48
7/27/2012	16:55	Upstream	7.94	0.070	0.0	8.26	18.38
7/27/2012	17:05	Mid-Site	8.06	0.069	1.3	8.03	18.65
7/28/2012	11:20	Upstream	7.96	0.070	0.0	8.92	16.10
7/28/2012	11:15	Downstream	7.23	0.067	0.0	9.59	16.30
7/28/2012	11:20	Mid-Site	7.96	0.068	0.0	8.83	16.57
7/30/2012	9:53	Mid-Site	7.39	0.071	0.0	10.52	13.90
7/30/2012	10:02	Downstream	7.30	0.073	0.0	9.49	14.38
7/30/2012	10:11	Upstream	7.40	0.072	0.0	10.78	14.02
7/31/2012	13:23	Mid-Site	7.67	0.071	0.0	9.68	17.25
7/31/2012	13:29	Downstream	7.43	0.074	0.0	9.33	17.64
7/31/2012	13:39	Upstream	7.65	0.073	0.0	10.03	17.64
8/1/2012	14:01	Mid-Site	7.50	0.077	3.1	9.95	17.56
8/1/2012	14:08	Downstream	7.43	0.073	0.0	9.50	17.81
8/1/2012	14:18	Upstream	7.76	0.072	0.0	9.89	17.93
8/2/2012	10:43	Mid-Site	7.04	0.077	0.0	9.09	13.84
8/2/2012	10:50	Downstream	6.97	0.072	0.0	10.06	14.01
8/2/2012	10:59	Upstream	7.05	0.073	0.0	9.90	13.88
8/3/2012	14:35	Mid-Site	7.29	0.071	0.0	9.41	17.78
8/3/2012	14:47	Downstream	7.40	0.072	0.0	9.66	18.19
8/3/2012	14:59	Upstream	7.49	0.073	0.0	9.15	18.37
8/6/2012	10:09	Downstream	7.00	0.074	0.0	10.18	14.57

Table 5-2

Surface Water Monitoring Results
Avery Landing 2012 Removal Action
Avery, Idaho

			Results				
Date	Time	Location ID	pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)
8/6/2012	10:17	Upstream	7.02	0.073	0.0	10.02	14.38
8/6/2012	10:30	Mid-Site	6.74	0.079	0.0	9.57	14.48
8/7/2012	11:11	Downstream	6.88	0.075	1.8	10.08	15.42
8/7/2012	11:25	Upstream	7.16	0.073	1.7	10.08	15.51
8/7/2012	11:36	Mid-Site	7.05	0.078	1.5	10.15	15.39
8/8/2012	14:25	Upstream	7.44	0.071	1.1	9.64	16.93
8/8/2012	14:35	Mid-Site	7.64	0.074	5.3	7.92	17.48
8/8/2012	14:50	Downstream	7.63	0.073	2.9	9.33	17.45
8/9/2012	14:30	Downstream	7.43	0.073	4.5	8.53	18.73
8/9/2012	14:50	Upstream	7.80	0.075	0.0	9.66	19.12
8/9/2012	15:05	Mid-Site	7.83	0.073	6.4	8.34	19.35
8/10/2012	14:15	Downstream	7.54	0.075	17.6	9.36	18.40
8/10/2012	14:45	Mid-Site	7.61	0.089	3.4	8.51	18.45
8/10/2012	14:37	Upstream	7.93	0.073	2.7	9.27	18.40
8/11/2012	11:45	Downstream	7.69	0.077	6.8	9.99	15.93
8/11/2012	11:58	Upstream	7.63	0.076	4.6	10.03	16.17
8/11/2012	12:10	Mid-Site	7.75	0.087	8.4	9.67	16.09
8/13/2012	14:55	Downstream	6.83	0.143	0.0	10.30	19.28
8/13/2012	15:10	Mid-Site	6.57	0.170	0.0	10.02	18.95
8/13/2012	15:15	Upstream	7.23	0.144	0.0	10.59	19.45
8/14/2012	14:15	Downstream	7.02	0.077	0.0	9.62	18.81
8/14/2012	14:30	Upstream	7.45	0.075	0.0	10.49	18.73
8/14/2012	14:45	Mid-Site	7.70	0.084	0.0	10.13	19.09
8/15/2012	16:35	Mid-Site	7.72	0.085	1.9	10.35	19.57
8/15/2012	16:45	Upstream	8.05	0.074	0.0	10.60	19.90
8/15/2012	17:05	Downstream	7.98	0.074	0.0	10.76	20.31
8/16/2012	16:35	Mid-Site	8.09	0.070	10.0	9.44	19.55
8/16/2012	16:45	Downstream	8.13	0.074	5.3	9.58	19.78
8/16/2012	16:55	Upstream	8.21	0.075	5.8	8.75	19.84
8/17/2012	16:30	Mid-Site	7.67	0.080	3.5	9.06	19.05
8/17/2012	16:40	Downstream	8.08	0.074	0.0	10.13	19.81
8/17/2012	16:55	Upstream	8.12	0.075	0.4	9.95	19.89
8/18/2012	12:15	Downstream	7.89	0.073	0.0	11.11	17.21
8/18/2012	12:28	Upstream	7.93	0.076	3.6	11.05	17.48
8/18/2012	12:35	Mid-Site	7.83	0.084	0.0	10.78	17.32
8/20/2012	16:30	Mid-Site	7.87	0.088	4.9	11.07	19.69
8/20/2012	16:43	Downstream	8.34	0.075	0.0	10.58	20.33
8/20/2012	16:49	Upstream	8.30	0.075	0.0	9.92	20.30
8/21/2012	11:26	Upstream	7.77	0.075	0.3	18.77	16.45
8/21/2012	11:37	Downstream	7.85	0.076	0.0	11.97	16.78
8/21/2012	11:48	Mid-Site	7.52	0.092	0.0	11.47	16.36
8/22/2012	13:48	Downstream	8.07	0.076	0.0	17.20	18.72
8/22/2012	13:54	Mid-Site	7.67	0.095	0.0	10.33	17.69
8/22/2012	13:59	Upstream	8.05	0.049	0.0	10.98	18.64

Table 5-2

Surface Water Monitoring Results
Avery Landing 2012 Removal Action
Avery, Idaho

Date	Time	Location ID	Results				
			pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)
8/23/2012	11:32	Mid-Site	7.76	0.081	0.6	26.48	15.40
8/23/2012	11:40	Downstream	7.59	0.075	0.0	12.51	15.56
8/23/2012	11:49	Upstream	7.78	0.076	0.0	12.34	15.55
8/24/2012	11:41	Downstream	7.71	0.075	0.0	18.92	14.36
8/24/2012	11:46	Mid-Site	7.50	0.094	0.0	13.41	13.88
8/24/2012	11:53	Upstream	7.77	0.075	0.0	12.32	14.34
8/25/2012	10:26	Downstream	7.56	0.075	0.0	40.80	12.48
8/25/2012	10:37	Upstream	7.58	0.075	0.0	12.80	12.48
8/25/2012	10:45	Mid-Site	7.46	0.089	0.0	12.00	12.44
8/27/2012	14:42	Downstream	8.07	0.075	0.1	28.72	17.68
8/27/2012	14:50	Mid-Site	7.65	0.091	0.1	11.71	17.44
8/27/2012	14:56	Upstream	8.04	0.075	0.0	11.36	17.87
8/28/2012	14:55	Downstream	6.93	0.085	0.0	11.29	18.07
8/28/2012	15:01	Mid-Site	7.27	0.092	0.0	11.68	17.55
8/28/2012	15:10	Upstream	7.62	0.079	0.0	11.11	18.25
8/29/2012	15:42	Downstream	7.84	0.081	0.0	18.43	18.09
8/29/2012	15:49	Mid-Site	7.95	0.079	0.0	11.20	18.16
8/29/2012	16:01	Upstream	8.00	0.081	0.0	11.23	17.38
8/30/2012	15:09	Downstream	7.74	0.084	0.0	34.96	16.75
8/30/2012	15:19	Upstream	7.97	0.080	0.0	11.98	17.38
8/30/2012	15:25	Mid-Site	7.73	0.093	0.0	11.88	17.02
9/5/2012	13:20	Downstream	5.73	0.080	0.0	11.08	16.14
9/5/2012	13:40	Mid-Site	5.91	0.083	1.1	10.93	16.18
9/5/2012	13:25	Upstream	5.95	0.078	0.5	11.04	16.32
9/6/2012	15:20	Downstream	5.92	0.091	1.5	11.90	18.20
9/6/2012	15:25	Mid-Site	6.45	0.078	0.1	10.87	17.74
9/6/2012	15:30	Upstream	6.39	0.081	0.0	13.29	18.30
9/7/2012	16:50	Mid-Site	5.90	0.111	0.0	11.43	16.40
9/7/2012	16:55	Downstream	5.94	0.103	0.0	11.18	16.39
9/7/2012	17:05	Upstream	5.84	0.085	1.9	10.45	16.36
9/8/2012	14:40	Downstream	6.09	0.083	0.0	11.35	16.49
9/8/2012	14:50	Upstream	6.30	0.083	0.0	10.24	16.92
9/8/2012	14:55	Mid-Site	6.32	0.089	0.1	10.87	16.66
9/10/2012	13:45	Downstream	5.85	0.102	0.1	12.83	11.79
9/10/2012	13:55	Upstream	6.10	0.091	0.0	12.59	11.62
9/10/2012	14:00	Mid-Site	6.07	0.083	0.0	12.06	11.51
9/11/2012	16:35	Mid-Site	6.37	0.093	0.0	13.25	13.45
9/11/2012	16:45	Downstream	6.26	0.090	0.0	12.74	13.30
9/11/2012	16:52	Upstream	6.09	0.085	0.0	12.17	13.11
9/12/2012	16:58	Mid-Site	5.87	0.093	0.0	12.05	12.87
9/12/2012	16:50	Downstream	5.73	0.108	0.0	12.46	13.15
9/12/2012	16:55	Upstream	5.78	0.100	0.0	12.27	13.06
9/13/2012	16:45	Upstream	5.50	0.098	0.6	13.36	13.89
9/13/2012	16:50	Downstream	5.59	0.095	2.4	12.89	13.78

Table 5-2

Surface Water Monitoring Results
Avery Landing 2012 Removal Action
Avery, Idaho

Date	Time	Location ID	Results				
			pH	Electrical Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)
9/13/2012	16:55	Mid-Site	6.80	0.101	0.4	11.41	13.86
9/14/2012	16:35	Mid-Site	5.66	0.098	19.3	13.15	13.14
9/14/2012	16:42	Downstream	5.77	0.099	4.2	11.98	13.28
9/14/2012	16:57	Upstream	6.12	0.086	0.0	11.62	13.25
9/15/2012	15:50	Downstream	6.38	0.079	4.9	12.48	14.28
9/15/2012	15:55	Upstream	6.68	0.081	0.0	11.60	14.47
9/15/2012	16:00	Mid-Site	6.28	0.081	0.0	12.01	14.36
9/17/2012	15:15	Downstream	7.02	0.079	0.0	11.00	14.79
9/17/2012	15:22	Upstream	6.80	0.086	0.0	10.14	14.87
9/17/2012	15:29	Mid-Site	6.46	0.081	0.0	10.78	14.38
9/18/2012	14:42	Downstream	6.82	0.079	0.0	11.53	14.54
9/18/2012	14:50	Upstream	6.98	0.079	0.0	11.01	14.51
9/18/2012	14:56	Mid-Site	6.58	0.081	0.0	10.44	14.08
9/19/2012	7:43	Downstream	6.38	0.080	0.0	12.33	9.52
9/19/2012	7:53	Upstream	6.46	0.078	0.0	11.36	9.58
9/19/2012	8:00	Mid-Site	6.20	0.077	0.0	11.67	9.44

(1) Probe accidentally disturbed river sediment a few minutes before reading.

Key

°C = Degrees Celsius
ID = Identification
mg/L = milligrams per liter
mS/cm = millisiemens per centimeter
NR = Not Recorded
NTU = Nephelometric Turbidity Units
WT = Water Treatment

Table 5-3

Sample Collection and Analysis Summary
Avery Landing 2012 Removal Action
Avery, Idaho

						Sample Matrix and Analysis Method								
						Soil					Water			
EPA Sample ID	Location ID	Sample Date	Activity	Sample Type	Sample Notes	SVOCs	PCBs	NWTPH Dx	VOCs	TCLP RCRA Metals	VOCs	Special List Metals	Special List SVOCs	PCBs
12060001	BL01	6/4/2012	Baseline	Composite	Containment Cell 1 Area	X	X	X	X					
12060002	BL02	6/4/2012	Baseline	Composite	Containment Cell 2 Area	X	X	X	X					
12060003	BL03	6/4/2012	Baseline	Composite	Containment Cell 3 Area	X	X	X	X					
12060004	BL04	6/4/2012	Baseline	Composite	Over Burden Stockpile Area	X	X	X	X					
12060005	BL05	6/4/2012	Baseline	Composite	Command Post/Equipment Storage Area	X	X	X	X					
12060006	BL06	6/4/2012	Baseline	Composite	Eastern Portion of Bentcik Property	X	X	X	X					
12060007	BL01V	6/4/2012	Baseline	Grab	Containment Cell 1 Area	X	X	X	X					
12060008	BL02V	6/4/2012	Baseline	Grab	Containment Cell 2 Area	X	X	X	X					
12060009	BL03V	6/4/2012	Baseline	Grab	Containment Cell 3 Area	X	X	X	X					
12060010	BL04V	6/4/2012	Baseline	Grab	Over Burden Stockpile Area	X	X	X	X					
12060011	BL05V	6/4/2012	Baseline	Grab	Command Post/Equipment Storage Area	X	X	X	X					
12060012	BL06V	6/4/2012	Baseline	Grab	Eastern Portion of Bentcik Property	X	X	X	X					
12061901	TB01	6/4/2012	Trip Blank	Grab	Blank						X			
12061001	ST01	6/7/2012	Sheen Test	Grab	Test Pit 1			X						
12061002	ST02	6/7/2012	Sheen Test	Grab	Test Pit 1			X						
12061003	ST03	6/7/2012	Sheen Test	Grab	Test Pit 1			X						
12061004	ST04	6/7/2012	Sheen Test	Grab	Test Pit 1			X						
12061005	ST05	6/7/2012	Sheen Test	Grab	Test Pit 1			X						
12060501	WI-01	6/14/2012	Water Treatment	Grab	Influent							X	X	X
12060502	WO-01	6/14/2012	Water Treatment	Grab	Effluent							X	X	X
12060503	WI-02	6/15/2012	Water Treatment	Grab	Influent							X	X	X
12060504	WO-02	6/15/2012	Water Treatment	Grab	Effluent							X	X	X
12060505	WO-03	6/16/2012	Water Treatment	Grab	Effluent							X	X	X
12060506	WI-03	6/16/2012	Water Treatment	Grab	Influent							X	X	X
12060101	SP01SSC1A	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060102	SP02SSC1B	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060103	SP03SSC1C	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060104	SP04SSC1D	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060105	SP05SSC1E	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060106	SP06SSC1F	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060107	SP07SSC1G	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060108	SP08SSC1H	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060109	SP09SSC1I	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060110	SP10SSC1J	6/20/2012	Contaminated Soil	Grab	First 2000 yd^3 of Contaminated Soil	X	X		X	X				
12060507	WO-04	6/20/2012	Water Treatment	Grab	Effluent							X	X	X
12060013	BL07SS	6/25/2012	Baseline	Grab	Over Burden Stockpile	X	X	X	X					
12060014	BL08SS	6/25/2012	Baseline	Grab	Over Burden Stockpile	X	X	X	X					
12060111	SP11SSC2	6/25/2012	Contaminated Soil	Grab	Contaminated Soil Cell 2	X	X							
12060508	WO-05	6/26/2012	Water Treatment	Grab	Effluent							X	X	X
12061902	TB02	6/26/2012	Trip Blank		Trip Blank						X			
12060201	PE01	6/28/2012	Post Excavation	Grab	FHWA Floor Eastern 5000 ft^2	X	X	X	X					
12060202	PE02	6/28/2012	Post Excavation	Grab	FHWA East Wall 5-6 ft Above Floor	X	X	X	X					
12060203	PE03	6/28/2012	Post Excavation	Grab	FHWA Floor Second 5000 ft^2	X	X	X	X					
12060204	PE04	6/28/2012	Post Excavation	Grab	FHWA Northern Wall 200 ft West of Excavation Wall	X	X	X	X					
12060401	PR01	6/28/2012	Product	Grab	Test Pit 2			X						
12061903	TB03	6/28/2012	Trip Blank	Grab	Blank						X			
12060015	BL09	6/29/2012	Baseline	Grab	0.9 Miles Up Moon Pass to Borrow Source	X	X	X	X					
12060016	BL09D	6/29/2012	Baseline	Grab	0.9 Miles Up Moon Pass to Borrow Source	X	X	X	X					
12060112	SP12SSC3	7/5/2012	Contaminated Soil	Grab	Contaminated Soil Cell 3	X	X							
12060509	WO-06	7/5/2012	Water Treatment	Grab	Effluent							X	X	X
12060060	PE05	7/11/2012	Post Excavation	Grab	FHWA Floor Third 5000 ft^2	X	X	X	X					
12060061	PE06	7/11/2012	Post Excavation	Grab	FHWA Northern Wall Adjacent to Third 5000 ft^2	X	X	X	X					

Table 5-3

Sample Collection and Analysis Summary
Avery Landing 2012 Removal Action
Avery, Idaho

EPA Sample ID	Location ID	Sample Date	Activity	Sample Type	Sample Notes	Sample Matrix and Analysis Method								
						Soil					Water			
						SVOCs	PCBs	NWTPH Dx	VOCs	TCLP RCRA Metals	VOCs	Special List Metals	Special List SVOCs	PCBs
12060514	WO-07	7/11/2012	Water Treatment	Grab	Effluent							X	X	X
12060113	SP13SSM	7/17/2012	Contaminated Soil	Grab	Contaminated Soil	X	X							
12060205	PE07	7/18/2012	Post Excavation	Grab	FHWA Floor Fourth 5000 ft^2	X	X	X (1)	X					
12060515	WO-08	7/18/2012	Water Treatment	Grab	Effluent							X	X	X
12060076	IE01	7/21/2012	Infiltration Trench	Grab	FHWA North Wall A	X	X							
12060077	IE02	7/21/2012	Infiltration Trench	Grab	FHWA North Wall B	X	X							
12060078	IE03	7/23/2012	Infiltration Trench	Grab	FHWA North Wall A			X	X					
12060079	IE04	7/23/2012	Infiltration Trench	Grab	FHWA North Wall B			X	X					
12060206	PE08	7/24/2012	Post Excavation	Grab	FHWA Floor Fifth 5000 ft^2	X	X	X	X					
12060207	PE09	7/24/2012	Post Excavation	Grab	FHWA Western Wall Adjacent to Fifth 5000 ft^2	X	X	X	X					
12060516	WO-09	7/24/2012	Water Treatment	Grab	Effluent							X	X	X
12060114	SP14SSC1	7/30/2012	Contaminated Soil	Grab	Contaminated Soil Cell 1	X	X							
12060517	WO-10	7/31/2012	Water Treatment	Grab	Effluent							X	X	X
12060518	WI-10	7/31/2012	Water Treatment	Grab	Influent							X	X	X
12060210	PE10	8/2/2012	Post Excavation	Grab	Bentcik/IDL Floor 150 ft East of Property Line	X	X	X	X					
12061904	TB04	8/2/2012	Trip Blank	Grab	Blank						X			
12060402	PR02	8/7/2012	Product	Grab	Recovered Product from Water Treatment System	X								
12060403	PR02D	8/7/2012	Product	Grab	Recovered Product from Water Treatment System Duplicate	X								
12060519	WO-11	8/7/2012	Water Treatment	Grab	Effluent							X	X	X
12062001	GAC01	8/7/2012	Granular Activated Carbon	Grab	Water Treatment System Granular Activated Carbon	X								
12060017	BL10	8/8/2012	Baseline	Composite	Over Burden Stock Pile West of Containment Cell 3	X	X	X	X					
12061905	TB05	8/8/2012	Trip Blank	Grab	Blank						X			
12060211	PE11	8/9/2012	Post Excavation	Grab	Potlatch/IDL Floor 250 ft East of Sewer Line and 20 ft North of St. Joe River	X	X	X	X					
12061906	TB06	8/9/2012	Trip Blank	Grab	Blank						X			
12060115	SP15SSC1	8/15/2012	Contaminated Soil	Grab	Contaminated Soil Cell 1	X	X							
12060116	SP15SSC9	8/15/2012	Contaminated Soil	Grab	Contaminated Soil Cell 1 Duplicate	X	X							
12060520	WO-12	8/15/2012	Water Treatment	Grab	Effluent							X	X	X
12060117	SP16SSC3	8/18/2012	Contaminated Soil	Grab	Contaminated Soil Cell 3	X	X							
12060212	PE12	8/22/2012	Post Excavation	Grab	Eastern Portion of Bentcik Property Excavation	X	X	X	X					
12060521	WO-13	8/22/2012	Water Treatment	Grab	Effluent							X	X	X
12061907	TB07	8/22/2012	Trip Blank	Grab	Blank						X			
12060118	SP17SSC1	8/27/2012	Contaminated Soil	Grab	Contaminated Soil Cell 1	X	X							
12060119	SP18SSC2	8/27/2012	Contaminated Soil	Grab	Contaminated Soil Cell 2	X	X							
12060120	SP19SSC3	8/27/2012	Contaminated Soil	Grab	Contaminated Soil Cell 3	X	X							
12060522	WO-14	8/29/2012	Water Treatment	Grab	Effluent							X	X	X
12060523	WI-14	8/29/2012	Water Treatment	Grab	Influent							X	X	X
12060213	PE13	8/31/2012	Post Excavation	Grab	Bentcik Floor 25 ft North and 285 ft West of Mule Barn	X	X	X	X					
12061908	TB08	8/31/2012	Trip Blank	Grab	Blank						X			
12060524	WO-15	9/6/2012	Water Treatment	Grab	Effluent							X	X	X
12060525	WO-15D	9/6/2012	Water Treatment	Grab	Effluent Duplicate							X	X	X
12060121	SP20SSB1	9/10/2012	Contaminated Soil	Grab	Contaminated Soil Bentcik Excavation	X	X							
12060122	SP21SSC3	9/10/2012	Contaminated Soil	Grab	Contaminated Soil Cell 3	X	X							
12060018	BL11	9/26/2012	Baseline	Composite	New Borrow Source Location 13 Miles East of Site	X	X	X	X					
12060909	TB09	9/27/2012	Trip Blank	Grab	Blank						X			

(1) The lab lost sample 12060205 for NWTPH Dx.

Key:

ft = Feet
ft^2 = Square Feet
NWTPH Dx = Extended Diesel Range Total Petroleum Hydrocarbons
PCB = Polychlorinated Biphenyls
SVOC = Semi Volatile Organic Compounds
VOC = Volatile Organic Compounds
TCLP =Toxicity Characteristic Leaching Procedure
RCRA =Rescource Conservation and Recovery Act
yd^3 = Cubic Yards

Table 5-4

Summary of Baseline and Borrow Material Soil Sample Results (Detected Compounds Only)
Avery Landing 2012 Removal Action
Avery, Idaho

Sample Number	12060001 & 7	12060002 & 8	12060003 & 9	12060004 & 10	12060005 & 11	12060006 & 12	12060013	12060014	12060015	12060016	12060017	12060018
Location	Surface Soil Baseline Samples						Overburden Stockpile		Borrow Material		Overburden Stockpile	Borrow Material
	BL01 & BL01V Containment Cell 1 Area	BL02 & BL02V Containment Cell 2 Area	BL03 & BL03V Containment Cell 3 Area	BL04 & BL04V Overburden Stockpile Area	BL05& BL05V Command Post Area	BL06 & BL06V East Bentcik	BL07SS	BL08SS	BL09	BL09D	BL10	BL11
Collection Date	**6/4/2012**	**6/4/2012**	**6/4/2012**	**6/4/2012**	**6/4/2012**	**6/4/2012**	**6/25/2012**	**6/25/2012**	**6/29/2012**	**6/29/2012**	**8/8/2012**	**9/26/2012**
PCB Data (µg/kg)												
Aroclor-1260				4.37	6.55	38.3	22 JK	142			29.6	
PCB Total				4.37	6.55	38.3	22 JK	142			38.1	
VOC Data (µg/kg)												
2-Butanone (MEK)	R	R	R	2.34 JQ	3.21 JQ	R						
Acetone				8.08 JH	14 JH							
Styrene				0.326 JQ								
Trichloroethene												5.21
NWTPH Dx Data (mg/kg)												
#2 Diesel (C10-C24)	6 JQ		7.9 JQ	7.3 JQ	11 JQ	160 JH	720 JK	320 JH	8.1 JQ	9.1 JQ	220 JK	
Motor Oil (>C24-C36)						1,000	1,400 JK	2,000	43 JQ	39 JQ	670 JK	

Note: this table presents positively detected compounds only. Complete data summary tables for these samples and results are found in Appendix E.

Key:

µg/kg = micrograms per kilogram
JH = positive detection, but approximate concentration with high bias
JK = estimated result with unknown bias
JQ = positive detection, result is between method detection limit and reporting limit
mg/kg = milligrams per kilogram
NWTPH Dx = Extended Range Diesel Range Total Petroleum Hydrocarbons
PCB = Polychlorinated Biphenyls
R = Results rejected due to deficiencies in ability to analyze sample and meet quality control criteria. Result cannot be verified.
VOC = Volatile Organic Compounds

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Table 5-5

Summary of Contaminated Stockpiles Soil Sample Results (Detected Compounds Only)
Avery Landing 2012 Removal Action
Avery, Idaho

Sample Number	12060101	12060102	12060103	12060104	12060105	12060106	12060107	12060108	12060109	12060110	12060111	12060112	12060113	12060114	12060115	12060116	12060117	12060118	12060119	12060120	12060121	12060122
Location	SP01SSC1A	SP02SSC1B	SP03SSC1C	SP04SSC1D	SP05SSC1E	SP06SSC1F	SP07SSC1G	SP08SSC1H	SP09SSC1I	SP10SSC1J	SP11SSC2	SP12SSC3	SP13SSM	SP14SSC1	SP15SSC1	SP15SSC9	SP16SSC3	SP17SSC1	SP18SSC2	SP19SSC3	SP20SSB1	SP21SSC3
Collection Date	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/25/2012	7/5/2012	7/17/2012	7/30/2012	8/15/2012	8/15/2012	8/18/2012	8/27/2012	8/27/2012	8/27/2012	9/10/2012	9/10/2012
PCB Data (µg/kg)																						
Aroclor-1254													45.4									81
Aroclor-1260													62.8									109 JL
PCB Total													108									190 JL
SVOC Data (µg/kg)																						
1-Methylnaphthalene		108	958	944	324		190	297	331	496	10,100		2,580	6,750	17,300	13,200	11,300	2,500	1,510		19,900	
2-Methylnaphthalene		56.7	377	341	143		73.2	115	126	176	12,600		2,080	3,430	11,100		11,600	1,010	1,500		17,000	
Benzo(a)anthracene												62.8										
Benzo(a)pyrene												51.8										
Benzo(b)fluoranthene												58.5										
Caprolactam													8,670									
Chrysene												65.6										
Fluoranthene									46.6			76.3	285									
Fluorene							234						1,030		4,160	4,500		1,010				
Indeno(1,2,3-cd)pyrene												41.5										
Naphthalene											1,710		381									
Phenanthrene	443	156	702	587	252	447	299	338	242	363	4,750		1,540	4,740	10,100	9,490	6,120	3,350	3,080			
Pyrene						189	169	150	124		992	356	440	2,490 JH	4,040			1,660	3,160	1,430		

Note: this table presents positively detected compounds only. Complete data summary tables for these samples and results are found in Appendix E.

Key:

µg/kg = micrograms per kilogram
JH = positive detection, but approximate concentration with high bias
JL = positive detection, but approximate concentration with low bias
PCB = Polychlorinated Biphenyls
SVOC = Semi Volatile Organic Compounds

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Table 5-6

Saummary of Post-Excavation Soil Sample Results (Detected Compounds Only)
Avery Landing 2012 Removal Action
Avery, Idaho

Property	Federal Highway Administration									Bentcik / Idaho Department of Lands			
Sample Number	**12060201**	**12060202**	**12060203**	**12060204**	**12060060**	**12060061**	**12060205**	**12060206**	**12060207**	**12060210**	**12060211**	**12060212**	**12060213**
Location	**PE01**	**PE02**	**PE03**	**PE04**	**PE05**	**PE06**	**PE07**	**PE08**	**PE09**	**PE10**	**PE11**	**PE12**	**PE13**
Collection Date	**6/28/2012**	**6/28/2012**	**6/28/2012**	**6/28/2012**	**7/11/2012**	**7/11/2012**	**7/18/2012**	**7/24/2012**	**7/24/2012**	**8/2/2012**	**8/9/2012**	**8/22/2012**	**8/31/2012**
SVOC Data (µg/kg)													
1-Methylnaphthalene	**480**							**21.9**	**20.6**				
2-Chloronaphthalene	**90.9 JL**												
2-Methylnaphthalene	**27.9**								**18.3**				
Anthracene		**87.9**											
Benzo(a)anthracene	**35.8**	**17.3**						**24.6**	**24.9**				
Benzo(a)pyrene	**37.6**	**28.8 JH**						**15.9**	**19.9**				
Benzo(b)fluoranthene								**15.9**	**29.6**				
Benzo(ghi)perylene									**16.4**				
Chrysene	**72.3**	**33.5**						**45**	**56.9**				
Fluoranthene	**136**	**16.6**						**76.4**	**70.5**				
Fluorene	**175**							**48**	**42.5**				
Indeno(1,2,3-cd)pyrene									**9.35**				
Naphthalene									**16.4**				
Phenanthrene	**395**	**87.5**						**106**	**102**	**10.7**			
Pyrene	**168**	**84.4**						**120**	**123**				
VOC Data (µg/kg)													
Acetone	**9.18**		**12.6**				**7.4**	**28.7 JL**	**47.7 JL**	**5.24**	**24.4 JL**		
Styrene												**1.23**	
NWTPH Dx Data (mg/kg)													
#2 Diesel (C10-C24)	**760 JH**	**2,700 JH**					na	**200**	**1,600**		**16 JQ**	**83 JH**	**7.3 JQ**
Motor Oil (>C24-C36)	**470 JH**	**350 JH**					na	**150**	**1,300**		**19 JQ**	**80 JH**	

Note: Results in **BOLD** indicated a positive detection.

This table presents positively detected compounds only. Complete data summary tables for these samples and results are found in Appendix E.

Key:

µg/kg = micrograms per kilogram
JH = positive detection, but approximate concentration with high bias
JL = positive detection, but approximate concentration with low bias
JQ = positive detection, result is between method detection limit and reporting limit
mg/kg = milligrams per kilogram
na = not analyzed
NWTPH Dx = Extended Diesel Range Total Petroleum Hydrocarbons
SVOC = Semi Volatile Organic Compounds
VOC = Volatile Organic Compounds

Table 5-7

Water Treatment Sample Results
Avery Landing 2012 Removal Action
Avery, Idaho

Sample Type				Influent Samples (Untreated)					Effluent Samples (Treated Discharge Water)																
Sample Number	Idaho Surface Water Criteria (µg/L)	Laboratory Reporting Limit (approximate) (µg/L)	Site Discharge Criteria (µg/L)	12060501	12060503	12060506	12060518	12060523	12060502	12060504	12060505	12060507	12060508	12060509	12060514	12060515	12060516	12060517	12060519	12060520	12060521	12060522	12060524	12060525
Location				WI-01	WI-02	WI-03	WI-10	WI-14	WO-01	WO-02	WO-03	WO-04	WO-05	WO-06	WO-07	WO-08	WO-09	WO-10	WO-11	WO-12	WO-13	WO-14	WO-15	WO-15D
Collection Date				6/14/2012	6/15/2012	6/16/2012	7/31/2012	8/29/2012	6/14/2012	6/15/2012	6/16/2012	6/20/2012	6/26/2012	7/5/2012	7/11/2012	7/18/2012	7/24/2012	7/31/2012	8/7/2012	8/15/2012	8/22/2012	8/29/2012	9/6/2012	9/6/2012
Metals Data (µg/L)																								
Arsenic	10	5	10	**38.8**	**38**	**46.9**	**31.4**	**20.2**	**7.53**	**4.64**	1.7 U	**5.89**	5.0 U	**5.81**	5 U	5 U	5 U	5 U	*5 U*	5 U	5 U	7.15 U	5 U	5 U
Cadmium	0.6	1	< RL	1.0 U	**0.738**	**0.605**	1 U	1 U	1.0 U	0.11 U	0.11 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium	11	10	11	50 U	**6.33 JL**	**10.2 JL**	10 U	10 U	10 U	2 UJL	2 UJL	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Copper	11	1	11	**38.9**	**39.2**	**33.6**	**79**	**5.04**	**1.82**	**2.26**	0.35 U	1.11 U	1.31 U	2 U	1 U	1 U	1.34 U	**1.05**	4.08 U	1 U	1 U	1 U	**1.42**	**1.19**
Lead	2.5	2	2.5	**43.1**	**44**	**28.8**	**75.4**	**2.91**	2.0 U	**1.88**	0.5 U	2.0 U	2.0 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Thallium	0.24	2	< RL	2.0 UJK	0.45 U	0.45 U	2 U	2 U	2.0 UJK	0.45 U	0.45 U	2.0 U	2.0 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Zinc	120	10	120	**176 JK**	**173**	**121**	**275**	**11.6**	**51.7 JK**	**82.3**	3.5 U	**21.6**	10 U	2 U	**12.8**	**10.6**	**222**	**11.7**	*10 U*	10 U	**12.4**	10 U	10 U	10 U
SVOC Data (µg/L)																								
Benzo[a]anthracene	0.0038	1	< RL	0.952 U	1.0 U	1.0 U	1 U	1.03 U	0.980 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1 U
Benzo[a]pyrene	0.0038	1	< RL	0.952 U	1.0 U	1.0 U	1 U	1.03 U	0.980 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1 U
Benzo[b]fluoranthene	0.0038	1	< RL	0.952 U	1.0 U	1.0 U	1 U	1.03 U	0.980 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1 U
Chrysene	0.0038	1	< RL	0.952 U	1.0 U	1.0 U	1 U	1.03 U	0.980 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1 U
Diphenylamine	3.3	10	< RL	9.52 U	10 U	10 U	10 U	10.3 U	9.80 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.1 U	10 U
Bis(2-ethylhexyl)phthalate	1.2	10	< RL	9.52 U	10 U	10 U	10 U	**13.4**	9.80 U	**15.4**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.1 U	**20.3**
PCB Data (µg/L)																								
Aroclor-1016	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1221	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1232	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1242	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1248	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1254	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1260	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-Total	0.000064	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U

Note: Results in **BOLD** indicated a positive detection.
Shaded results indicates a result that exceeds the site discharge criteria.

Key:
µg/L = micrograms per liter
JK = estimated result with unknown bias
JL = positive detection, but approximate concentration with low bias
n/a = not applicable
PCB = Polychlorinated Biphenyls
< RL = less than the reporting limit
SVOC = Semi Volatile Organic Compounds
U = not detected at indicated reporting limit
UJK = not detected at indicated reporting limit; reporting limit is estimated with unknown bias
UJL = not detected at indicated reporting limit; reporting limit is estimated with low bias

Table 5-8

Summary of Infiltration Trench Sample Results (Detected Compounds Only)
Avery Landing 2012 Removal Action
Avery, Idaho

Sample Number	12060076 & 78	12060077 & 79
Location	**IE01 & IE03**	**IE02 & IE04**
Collection Date	**7/21/12 & 7/23/12**	**7/21/12 & 7/23/12**
SVOC Data (µg/kg)		
Benzo(a)anthracene	402	251
Benzo(ghi)perylene	126 JH	
Chrysene	629	384
Phenanthrene	2,940	1,880
Pyrene	2,660	1,110
VOC Data (µg/kg)		
Acetone	15.7	10.7
NWTPH Dx Data (mg/kg)		
#2 Diesel (C10-C24)	1,700 JH	590 JH
Motor Oil (>C24-C36)	1,700 JH	640 JH

Note: this table presents positively detected compounds only. Complete data summary tables for these samples and results are found in Appendix E.

Key:

µg/kg = micrograms per kilogram
JH = positive detection, but approximate concentration with high bias
mg/kg = milligrams per kilogram
NWTPH Dx = Extended Diesel Range Total Petroleum Hydrocarbons
SVOC = Semi Volatile Organic Compounds
VOC = Volatile Organic Compounds

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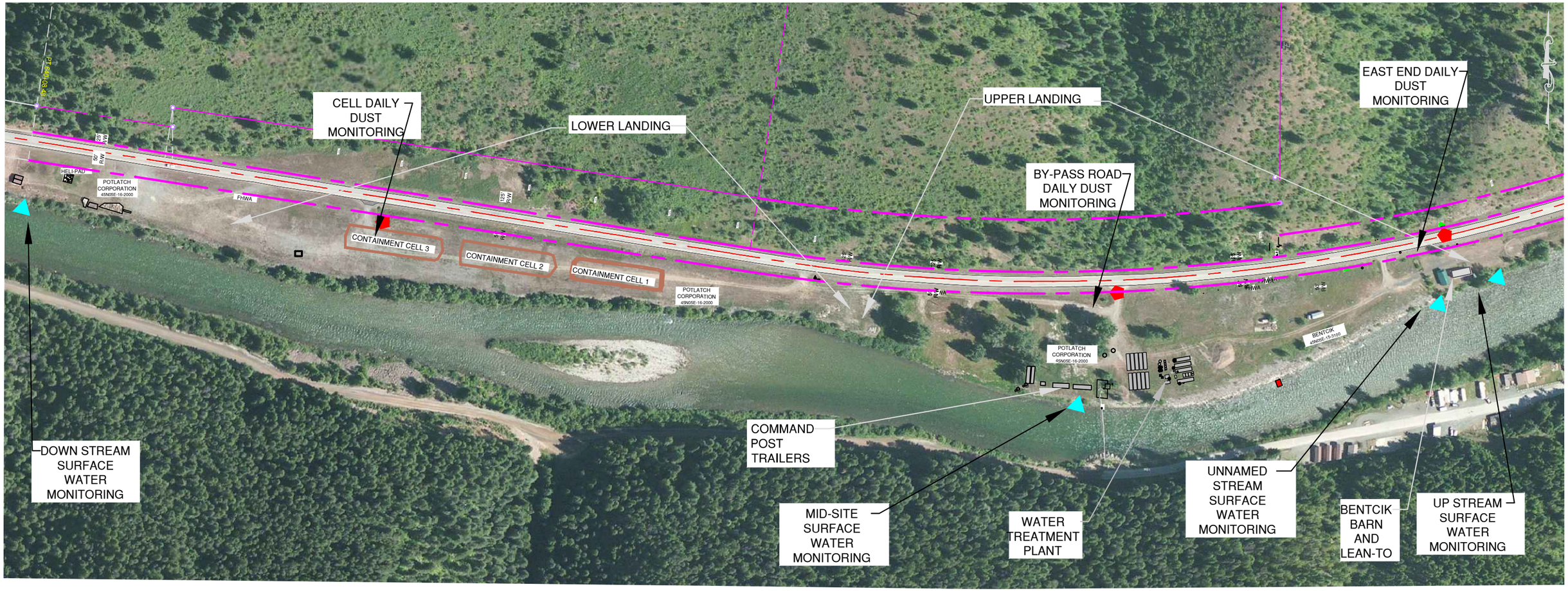

LEGEND

- DUST MONITORING LOCATION
- WATER MONITORING LOCATION

230’ 0 230’ 460’

1” = 230’

ecology and environment, inc
Global Specialist in the Environment
Seattle Washington

AVERY LANDING SITE
Avery, Idaho

Figure 5-1
DAILY MONITORING LOCATIONS

Date:	Drawn by:	
01/04/13	V. GEE	10: START-3\EE-002233-079X-01TTO\fig 5-1

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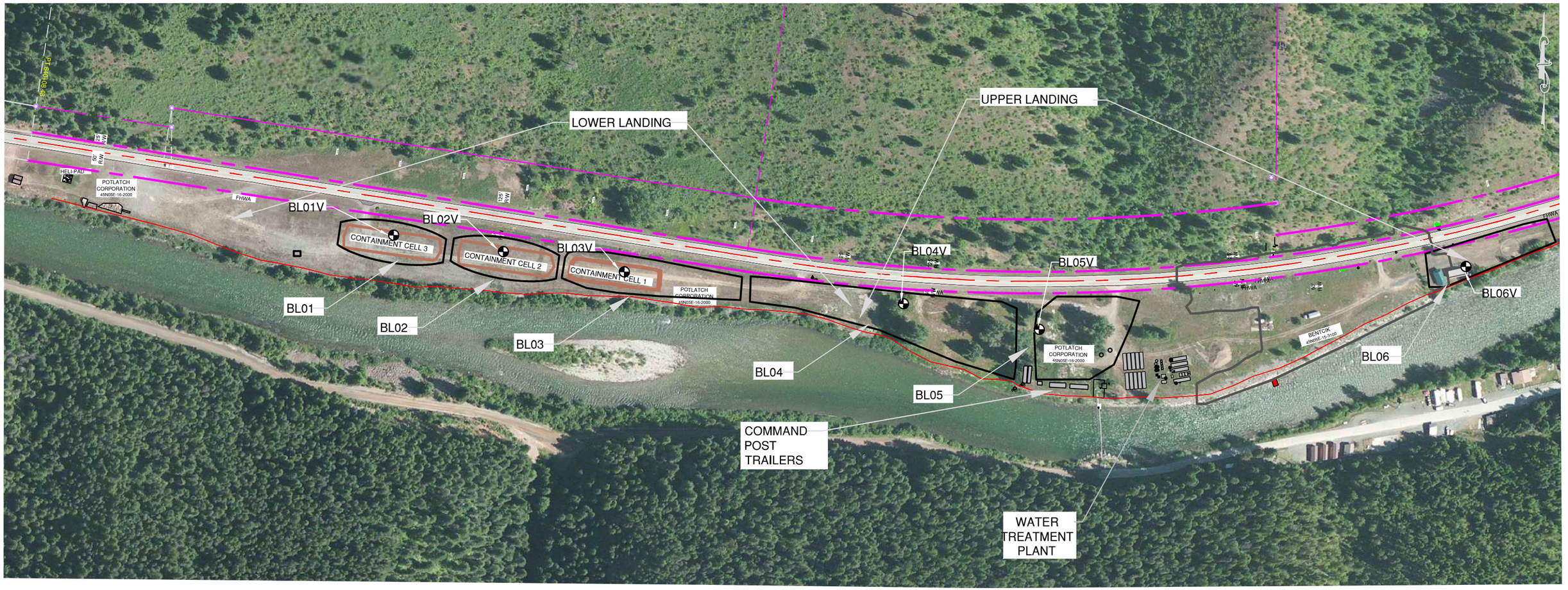

LEGEND

- EXCAVATION AREA
- COMPOSITE SAMPLE AREA
- SAMPLE LOCATION APPROXIMATE
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE FEDERAL HIGHWAY ADMINISTRATION

230' 0 230' 460'

1" = 230'

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Seattle Washington

AVERY LANDING SITE
Avery, Idaho

Figure 5-2
BASELINE SOIL SAMPLE LOCATIONS JUNE 4, 2012

Date:	Drawn by:	
01/04/13	V. GEE	10: START-3\EE-002233-079X-01TTO\fig 5-2

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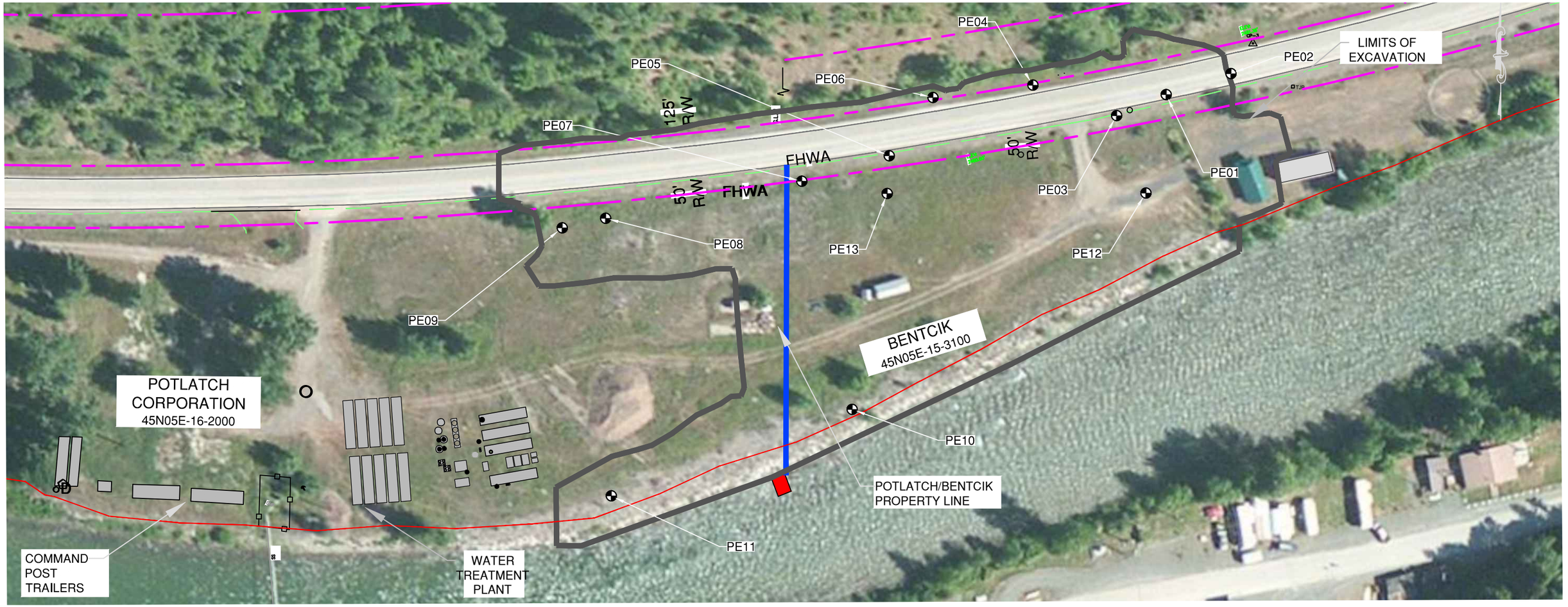

LEGEND

- POTLATCH/BENTCIK PROPERTY LINE
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE FEDERAL HIGHWAY ADMINISTRATION
- EXCAVATION AREA
- SAMPLE LOCATION APPROXIMATE

80' 0 80' 160'

1" = 80'

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Avery, Idaho

Figure 5-3
POST EXCAVATION SOIL SAMPLE LOCATIONS

Date:	Drawn by:	
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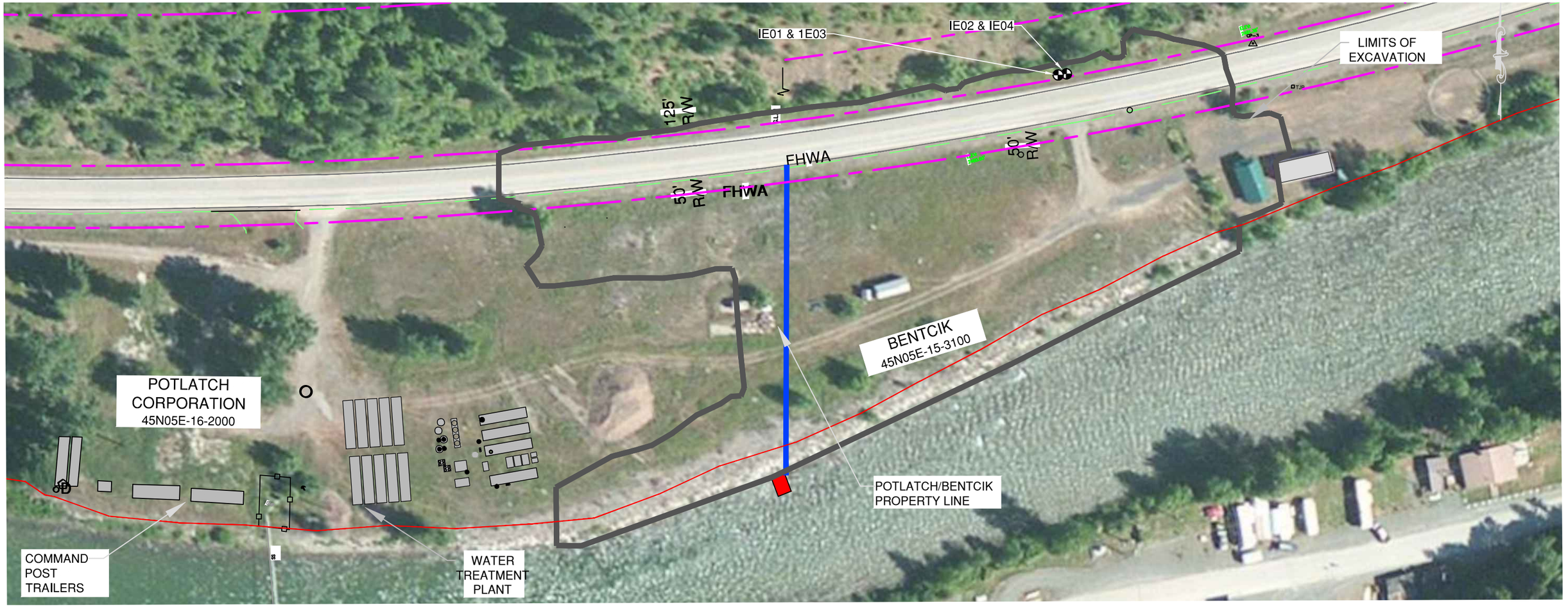

LEGEND

- POTLATCH/BENTCIK PROPERTY LINE
- PROPERTY LINE IDAHO DEPARTMENT OF LANDS
- RIGHT OF WAY PROPERTY LINE FEDERAL HIGHWAY ADMINISTRATION
- EXCAVATION AREA
- SAMPLE LOCATION APPROXIMATE

80' 0 80' 160'

1" = 80'

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Avery, Idaho

Figure 5-4
INFILTRATION TRENCH SOIL SAMPLE LOCATIONS

Date:	Drawn by:	
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6 2013 Anticipated Removal Activities

This section describes the anticipated removal activities that will take place during the summer of 2013, and the Site infrastructure left in-place by EPA in support of those activities.

6.1 Potlatch Land and Lumber, LLC

During 2012, removal activities were completed for those portions of the Site owned by the Bentciks and FHWA and for other areas owned by IDL and Potlatch. For the remaining contaminated portions of the Site it is currently anticipated that the RA will be conducted by Potlatch under the oversight of the EPA in 2013.

6.2 2012 Site Infrastructure Features Left In-Place in Support of Anticipated 2013 Removal Activities (RA)

The following Site infrastructure features were left in-place for use by Potlatch during the 2013 RA:

- Three contaminated soil containment cells used for drying and interim storage pending off-Site transportation and disposal constructed at the lower Site landing;
- Approximately 2300 feet of orange stormwater and sediment fencing placed at or near the St. Joe River ordinary high water mark;
- A gravel trailer pad constructed near the existing power pole; and
- A mid-Site ingress/egress ramp.

Additionally, geotextile fabric serving as a visual marker and to safeguard against recontamination of clean soil was placed onto the Potlatch property transition areas. As part of the 2013 removal action, Potlatch will remove these features and dispose of all materials in an appropriate manner.

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7 Community Relations

EPA provided periodic briefings for the local community and others, including Benewah County and Shoshone County Commissioners and county personnel. A website (http://www.epaosc.org/AveryLanding) was established, and periodic Pollution Reports (POLREP) were also distributed throughout the duration of the project. Documents pertaining to community relations efforts are located in Appendix F. Additional EPA community relation efforts are described below.

7.1 Formal Outreach Activities during the Removal Action

Prior to the beginning of the RA in late May 2012, a fact sheet describing the cleanup work to be performed was mailed and distributed throughout the community. Soon after the project began, EPA conducted a community open house in mid-June to further familiarize the local community with the removal activities and schedule. Additionally, meetings were held with the Benewah and Shoshone County Commissioners to provide information regarding cleanup activities and to coordinate the cleanup with other community activities. Throughout the duration of the project, the County Commissioners were provided with copies of project POLREPS, and as appropriate, on-Site informal meetings were held with county law enforcement and highway maintenance personnel regarding project activities.

Prior to and during the RA, EPA communicated with local media, and as a consequence, several articles were published in a local newspaper that described the cleanup activities and highlighted particular community interests such use and transport of contaminated materials along public roadways.

7.2 Informal Outreach Activities during the Removal Action

Avery is a small unincorporated town nestled in the St. Joe River valley with a population of about 60 full-time residents. Because of its small size and dependency on recreational activities, long-term lodging was difficult to obtain for a work force of 18 to 21 people. However, all personnel secured needed lodging within the community. Additionally, personnel frequented local eateries and procured a variety of necessary supplies from local merchants. Due to the small and intimate character of the community and the professionalism of the work force all personnel were welcomed and well received by the community.

On occasion, other Federal, State, Tribal, and members of the public visited the Site. When this occurred, project staff escorted the visitors throughout the Site explaining the cleanup activities. Additionally, Potlatch frequently visited the Site to observe ongoing activities.

7.3 Traffic Routes and Restrictions

While the Site is located within Shoshone County, contaminated material was transported along roadways located within both Shoshone County and Benewah County. It was originally planned for the contaminated materials to be transported through St. Maries on local highways to the disposal facility located near Medical Lake, Washington. However, the Benewah County Commissioners raised concerns about the potential impact associated with the sustained heavy use of the highways by dump trucks pulling trailers (i.e., truck and pup) on recently chip sealed

highway pavement. EPA was able to address the Benewah County Commissioners' concerns by working cooperatively with its subcontractors to find alternative routes, thus avoiding recently sealed pavement.

The Shoshone County Commissioners and the Benewah County Commissioners also expressed concern about the possibility of accidents involving project-related dump trucks on public highways because of the large number of anticipated back-and-forth trips between the Site and the disposal facility. In response to this concern, EPA worked cooperatively with State and local law enforcement, as well as EPA's subcontractors to emphasize the importance of complying with traffic rules and regulations and when possible, conducting emphasis patrols along certain highways. There were no known instances when project-related truck operators were cited for traffic violations.

7.4 Contingency Planning

The Benewah and Shoshone County Commissioners also expressed concern about the possibility of accidents involving project-related dump trucks on public highways, particularly along Highway 50 which is aligned along much of the St. Joe River. In response to this concern, EPA on-Site personnel were trained in land and water hazardous materials response techniques and maintained a spill response trailer with supplies suitable for initial hazardous material spill response. There were no known instances of a project-related accident or incident involving the release of contaminated or hazardous materials.

8 Quality Assurance/Quality Control

QA/QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of sampling equipment, glassware and reagents. Specific QC requirements for laboratory analyses are incorporated in the *Contract Laboratory Program Statement of Work for Organic Analyses* (EPA 2007) and the *Contract Laboratory Program Statement of Work for Inorganic Analyses* (EPA 2011). These QC requirements or equivalent requirements found in the analytical methods were followed for analytical work on the project. This section describes the QA/QC measures taken for the project and provides an evaluation of the usability of data presented in this report.

Data from the START-subcontracted commercial laboratory were reviewed and validated by a START chemist. Data qualifiers were applied as necessary according to the following guidance:

- EPA (2008) *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*.
- EPA (2010) *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review*.

In the absence of other QC guidance, method- and/or standard operating procedure-specific QC limits were also utilized to apply qualifiers to the data.

8.1 Satisfaction of Data Quality Objectives

The following EPA (EPA 2000) guidance document was used to establish data quality objectives (DQOs) for this project:

- *Guidance for the Data Quality Objectives Process* (EPA QA/G-4), EPA/600/R-96/055.

EPA determined that definitive data without error and bias determination would be used for the sampling and analyses conducted during the field activities. The data quality achieved during the field work produced sufficient data that met the DQOs stated in the SSSP (E & E 2012c). A detailed discussion of accomplished project objectives is presented in the following sections.

8.2 QA/QC Samples

Rinsate blank QA samples are only required for samples collected using non-dedicated sampling equipment and were not collected for this project. In general, one trip blank QA sample was collected for each sample cooler that contained samples to be analyzed for volatile organic compounds; discrepancies are discussed in subsection 8.4.7. QC samples included matrix spike/matrix spike duplicate (MS/MSD) and/or blank spike (BS) samples at a rate of one MS/MSD and/or BS per 20 samples per matrix.

8.3 Project-Specific Data Quality Objectives

The laboratory data were reviewed to ensure that DQOs for the project were met. The following describes the laboratories' abilities to meet project DQOs for precision, accuracy and

completeness and the field team's ability to meet project DQOs for representativeness and comparability. The laboratories and the field team were able to meet DQOs for the project.

8.3.1 Precision

Precision measures the reproducibility of the sampling and analytical methodology. Laboratory and field precision is defined as the relative percent difference (RPD) between duplicate sample analyses. The laboratory duplicate samples or MS/MSD samples measure the precision of the analytical method. The RPD values were reviewed for all commercial laboratory samples. A total of 7 sample results (approximately 0.1 percent [%] of the data) were qualified based on precision outliers; therefore the project DQO for precision was met.

8.3.2 Accuracy

Accuracy indicates the conformity of the measurements to fact. Laboratory accuracy is defined as the surrogate spike percent recovery (%R) or the MS/MSD/BS %Rs for all laboratory analyses. The surrogate %R values were reviewed for all appropriate sample analyses. A total of 92 sample results (approximately 1.3% of the data) were qualified as estimated quantities based on surrogate spike outliers.

The %R values were reviewed for all MS/MSD/BS analyses. A total of 5 sample results (approximately 0.1% of the data) were qualified based on spike outliers; therefore the project DQO for accuracy of 90% was met.

8.3.3 Completeness

Data completeness is defined as the percentage of usable data (usable data divided by the total possible data). All laboratory data were reviewed for data validation and usability. A total of 12 sample results (approximately 0.2% of the data) were rejected; therefore the project DQO for completeness of 90% was met.

8.3.4 Representativeness

Data representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point or environmental condition. The number and selection of samples were determined in the field to account accurately for Site variations and sample matrices. The DQO for representativeness was met.

8.3.5 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Data produced for this Site followed applicable field sampling techniques and specific analytical methodology. The DQO for comparability was met.

8.4 Laboratory QA/QC Parameters

The laboratory data also were reviewed for holding times/temperatures/sample containers, laboratory blank samples, serial dilution analyses, internal standards, PCB second column confirmation, total petroleum hydrocarbon (TPH) chromatographic interferences, and trip blanks. These QA/QC parameters are summarized below.

8.4.1 Holding Times/Temperatures/Sample Containers

All sample containers were acceptable. A total of 119 sample results (approximately 1.6% of the data) were qualified as estimated quantities based on holding time outliers. A total of 100 sample results (approximately 1.4% of the data) were qualified as estimated quantities based on temperature outliers.

8.4.2 Laboratory Blanks

All laboratory blanks met the frequency criteria. The following potential contaminants of concern were detected in the laboratory blanks:

- TPHs: Diesel and Motor Oil ranges.
- Inorganics: Antimony, arsenic, barium, cadmium, chromium, copper, mercury, selenium, and zinc.
- SVOCs: Benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)anthracene.

See the data validation memoranda for results qualified based on blank contamination.

8.4.3 Serial Dilution Analyses

Serial dilution analyses met the frequency criteria. A total of 2 sample results (less than 0.1% of the data) were qualified based on serial dilution outliers.

8.4.4 Internal Standards

Internal standards met the frequency criteria. A total of 154 sample results (approximately 2.1% of the data) were qualified based on serial dilution outliers.

8.4.5 PCB Second Column Confirmation Analyses

PCB second column confirmation analyses met the frequency criteria. A total of 3 sample results (less than 0.1% of the data) were qualified based on second column confirmation outliers.

8.4.6 TPH Chromatographic Interferences

A total of 16 sample results (approximately 0.2% of the data) were qualified based on chromatographic interferences.

8.4.7 Trip Blanks

In general, trip blank analyses were performed at a frequency of one per cooler containing samples to be analyzed for volatile organic compounds, with a total of none trip blanks submitted. There were no detections in the trip blank analyses. Six coolers containing VOC samples were not submitted with trip blanks. Samples in two of those coolers did not have any positive VOC results. In three of those coolers, the samples which were submitted for VOC analysis only detected acetone in these samples which is not a target analyte for this project. In one of the coolers, two product samples were submitted for VOC analyses without a trip blank sample; the contaminated materials associated with these product samples were disposed of using the same technique, so there were no potential cross-contamination issues with these samples.

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9 Health and Safety

EPA maintained ultimate authority and responsibility for Site safety during the RA. ERRS and START each developed a Site-Specific Health and Safety Plan (HASP), which were incorporated into EPA's Site HASP. EPA conducted a general Site safety meeting at the beginning of the RA to establish the health and safety procedures for the Site. Daily safety meetings were conducted at the beginning of each day of Site work and attended by all personnel present, including EPA, ERRS, and START. During the daily safety meetings, Site personnel discussed the planned activities for that day, any reoccurring task-specific health and safety issues such as communications, conduct in or near excavations, traffic safety, and other safety alerts, as well as periodic reminders regarding cultural resources and community activities.

The main physical hazards present at the Site were heavy equipment (e.g., haul trucks, excavators, dozer, compactor, and water truck), open excavations, and uneven terrain. The minimum level of personal protective equipment (PPE) for the Site was Level D, including safety glasses, hard hat, high visibility safety vest, and steel-toed safety shoes. Other safety equipment, such as gloves and hearing protection, were required as warranted by activity and/or Site conditions.

The main chemical hazard present at the Site was petroleum contamination with SVOCs and heavy metals. Depending on the results of dust monitoring and air sampling, Site health and safety protocols included a provision for an upgrade to Level C PPE with respiratory protection. However, the ERRS dust suppression efforts were effective and therefore no PPE upgrades were necessary and Site PPE remained at Level D throughout the RA.

A health and safety audit was conducted by the EPA Region 10's Removal Program Health and Safety Program Coordinator in mid-July 2012. The audit consisted of a detailed and objective assessment of the Site HASP to determine whether health and safety regulations, EPA policies, and contractor policies were being adequately implemented and followed. The audit disclosed no significant health and safety issues.

During the course of the RA there were no worker injuries or other health and safety-related incidents on the Site.

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10 Difficulties Encountered

The following difficulties that affected the RA were encountered:

- Submersible Pump Failures: During the first month of the RA, the effectiveness of the temporary water treatment system was evaluated, including an evaluation of the type of submersible pump used to move groundwater and surface water from the excavation to the temporary water treatment system. It was determined that the submersible pump initially used in the excavation was incapable of overcoming the pressure head required to pump groundwater from the excavation to the water treatment system because it was undersized thus slowing excavation activities. It was replaced with a larger submersible pump capable overcoming the pressure head, which optimized groundwater control in the excavation.

- Cofferdam and In-River Work: The cofferdam was designed to create a barrier between the excavation and the St. Joe River to minimize adverse impacts to the river and to prevent surface water from entering the excavation. However, because of the rocky bottom of the river bed, the inflatable cofferdam did not provide a complete seal and thus was only able to partly divert the fast flowing water from the excavation. Although the cofferdam was unable to prevent all surface water from entering the excavation, the hydraulic gradient of the surface water entering the excavation zone from the river helped prevent petroleum contamination and sediment from migrating past the cofferdam to the river. Additionally, during the shoreline excavation activities, a submersible water pump and absorbent pads and booms were used to recover LNAPL and petroleum sheen and to prevent migration to the river.

- Frontier Telephone Line: The Frontier telephone line serving the town of Avery was temporarily relocated from within the Highway 50 ROW to the St. Joe River bank before the start of cleanup activities. One day, this temporary telephone line was accidentally damaged during cleanup activities. Telephone service to a portion of the town was interrupted for several hours until the line was repaired.

- Subsurface Structures: During excavation activities throughout the Site, many subsurface concrete structures and debris were encountered. Many of these features contained various amounts of LNAPL. Because of the difficulty associated with removing these large structures, a hydraulic hammer excavator attachment was mobilized to the Site to break up the concrete so the foundations could be excavated. Additionally, a large amount of scrap metal and debris were encountered, which was recycled whenever possible.

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11 Summary and Conclusions

From May 30 through October 16, and November 12-16, 2012, EPA performed the Avery Landing Site RA to mitigate the release of petroleum hydrocarbons and hazardous substances to the St. Joe River. EPA performed the 2012 RA to address contamination present on the FHWA (Highwy 50 ROW), Bentcik, and IDL properties. EPA also performed work on specific transition areas on the Potlatch property to allow for the safe removal of contaminated materials from the other three properties.

EPA removed 47,735 yd^3 of contaminated material which was transported off-Site for disposal. EPA also treated 15,254,600 gallons of contaminated groundwater to Site treatment criteria. The excavated areas were backfilled and graded with 52,424 yd^3 of clean backfill, which included clean overburden removed from above the contaminated soil and off-Site borrow material. Before backfilling, EPA installed geotextile sheeting at the Potlatch transition areas as a visual marker and to safeguard against recontamination. Pre-existing grades were restored and disturbed areas were stabilized by placing erosion control slash material and seeding.

Erosion, sediment, and dust control BMPs were employed, and daily monitoring confirmed the effectiveness of the BMPs for control of short-term construction impacts. Daily surface water monitoring was also conducted and confirmed that there were no off-Site releases of material affecting the water quality of the St. Joe River due to cleanup activities.

For the remaining contaminated portions of the Site it is currently anticipated that the RA will be conducted by Potlatch under the oversight of the EPA in 2013.

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12 References

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A Photographic Documentation

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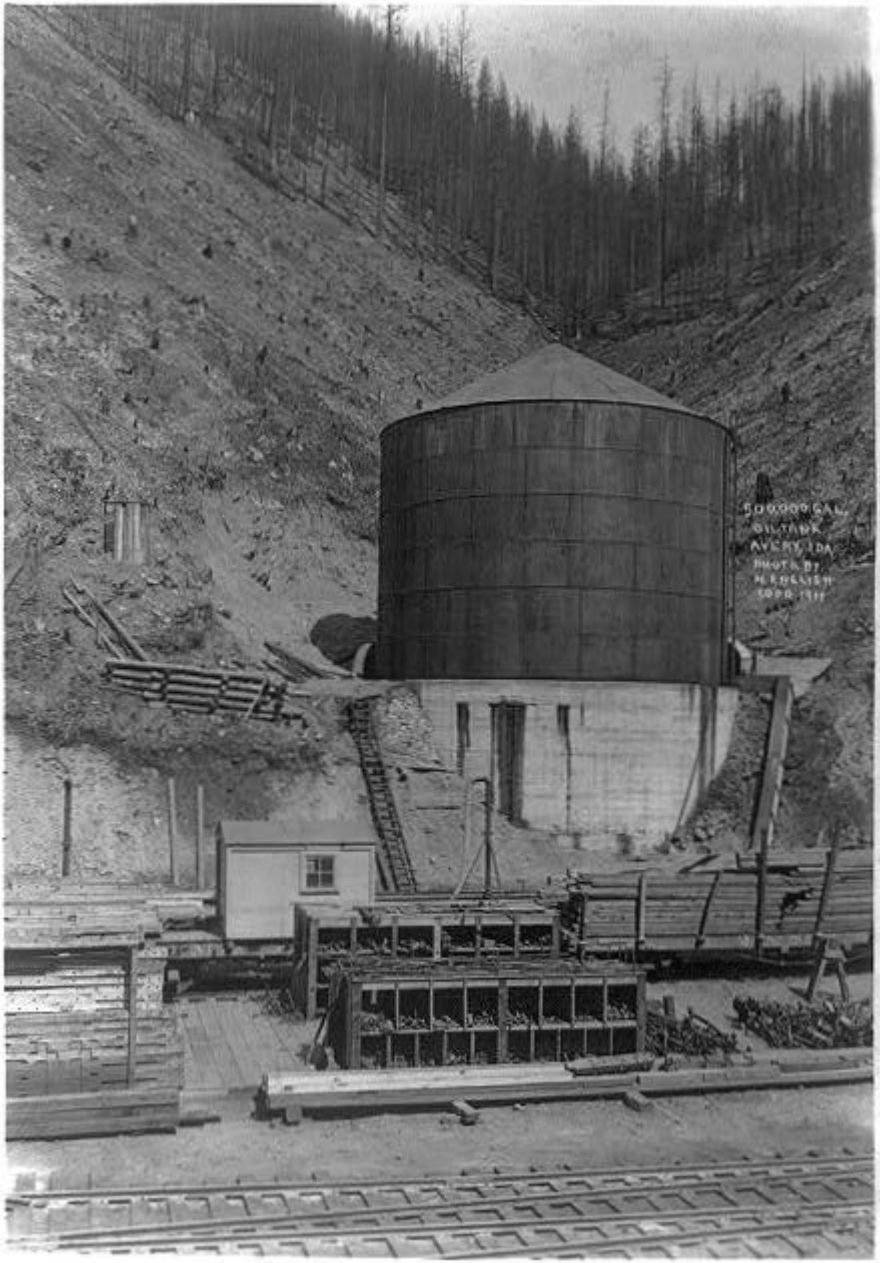
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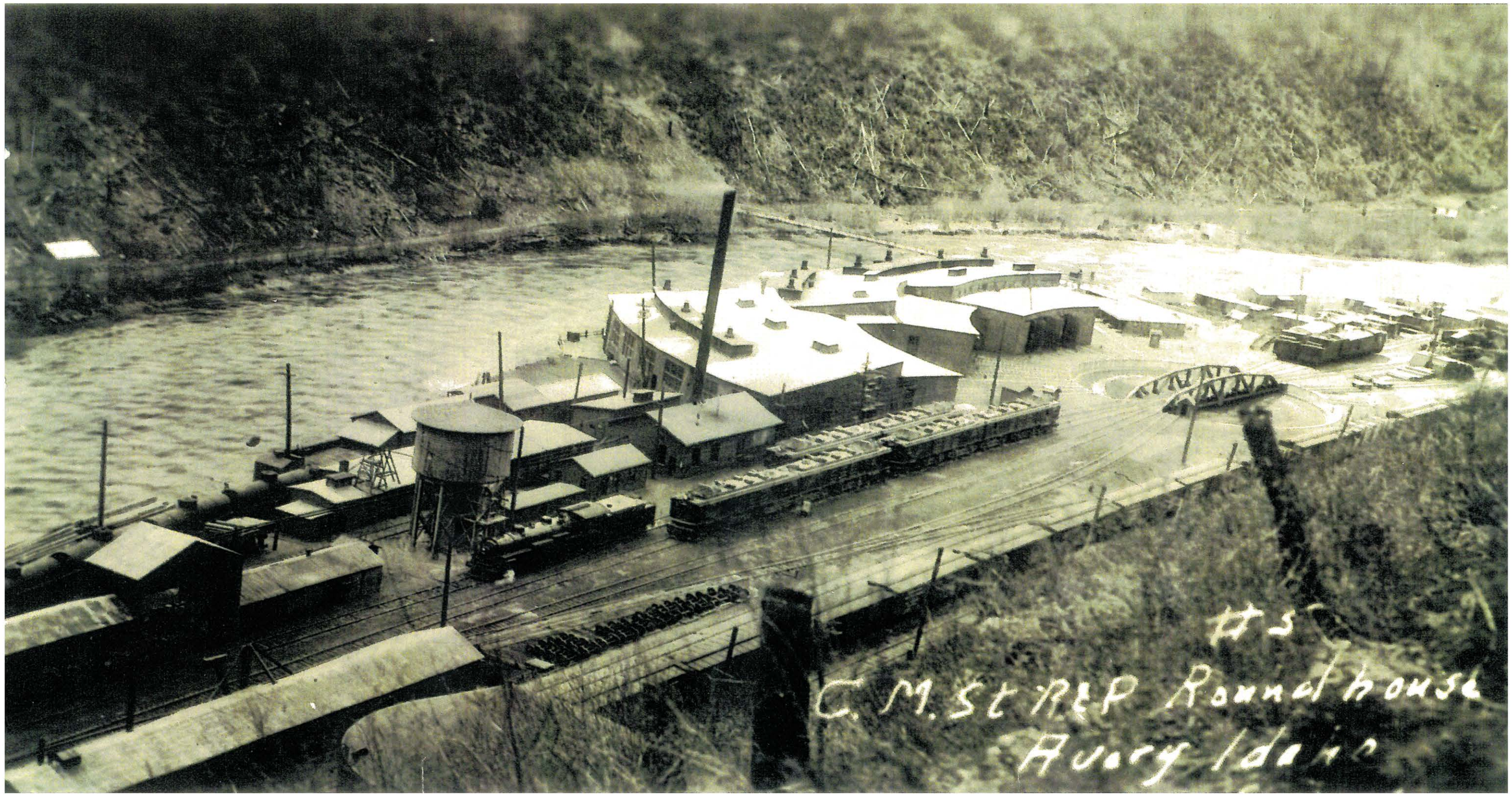
OIL TANK
AVERY, IDA.
PHOTO BY
H. ENGLISH
SEPT. 1911


5000


No 8 Round House Avery Idaho.


#5
C. M. St. P. & P. Round house
Avery Idaho

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AVERY LANDING SITE
Avery , Idaho

TDD Number: 12-05-0006
Photographed by: Steve Hall (SH), Michael Worden (MW), Jim Petersen (JP), Vincent Gee (VG), Earl Liverman (EPA), Jason Coury (EQM)

Photo 1 Oil sheen in St. Joe River prior to Removal Action (RA).

Direction: South *Date: 3/1/12* *Time: N/A* *Taken by: SH*

Photo 2 Preparing area for containment cell installation.

Direction: West *Date: 5/30/12* *Time: 13:52* *Taken by: MW*

Photo 3 Building berm for containment cell.

Direction: West *Date: 5/30/12* *Time: 16:58* *Taken by: MW*

Photo 4 Gravel base for containment cell.

Direction: West *Date: 6/7/12* *Time: 09:26* *Taken by: JP*

Photo 5 Bottom of test pit with light non-aqueous phase liquid floating on ground water.

Direction: *Down* *Date: 6/7/12* *Time: 16:34* *Taken by: SH*

Photo 6 Beginning the diversion of the unnamed stream to bypass channel.

Direction: *West* *Date: 6/13/12* *Time: 15:47* *Taken by: JP*

Photo 7 Turbid water in unnamed stream early on in diversion to bypass channel.

Direction: *South* *Date: 6/13/12* *Time: 15:57* *Taken by: JP*

Photo 8 Federal Highway Administration (FHWA) excavation area.

Direction: *West* *Date: 6/20/12* *Time: 14:25* *Taken by: MW*

Photo 9 FHWA excavation area.

Direction: West *Date: 6/20/12* *Time: 14:25* *Taken by: MW*

Photo 10 Piping for unnamed stream going over roadway to bypass channel.

Direction: West *Date: 6/22/12* *Time: 17:09* *Taken by: MW*

Photo 11 Piping for unnamed stream to bypass channel.

Direction: Northeast *Date: 6/23/12* *Time: 13:31* *Taken by: MW*

Photo 12 Infiltration trench discovered on north side of Highway 50.

Direction: North *Date: 6/26/12* *Time: N/A* *Taken by: EQM*

AVERY LANDING SITE
Avery , Idaho

TDD Number: 12-05-0006
Photographed by: Steve Hall (SH), Michael Worden (MW), Jim Petersen (JP), Vincent Gee (VG), Earl Liverman (EPA), Jason Coury (EQM)

Photo 13 Infiltration trench carrier and perforated pipes on north side of FHWA excavation area.

Direction: *West* *Date: 6/27/12* *Time: 09:47* *Taken by: MW*

Photo 15 Infiltration trench carrier and perforated pipes with visible staining on north side of FHWA excavation area.

Direction: *North* *Date: 6/27/12* *Time: 11:28* *Taken by: SH*

Photo 14 Infiltration trench carrier and perforated pipes on north side of FHWA excavation area.

Direction: *Down* *Date: 6/27/12* *Time: 14:34* *Taken by: MW*

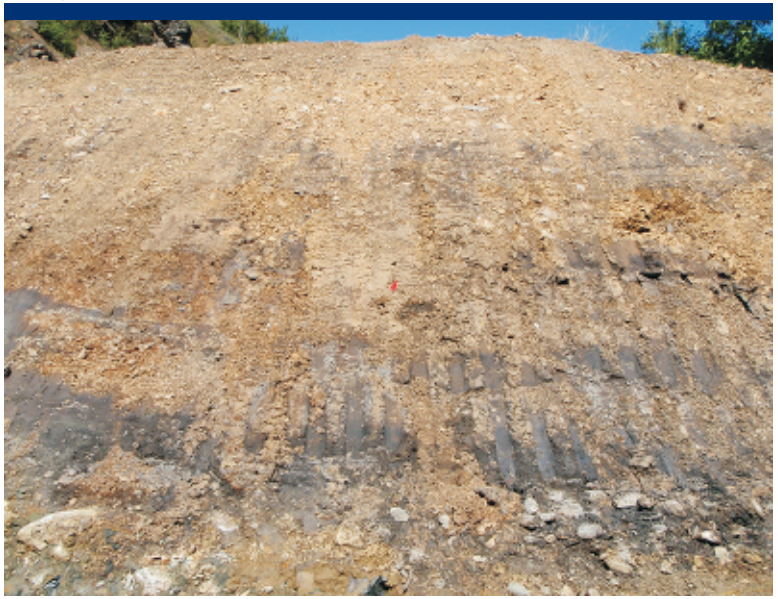

Photo 16 East wall of FHWA excavation and sample location PE-02.

Direction: East *Date: 6/28/12* *Time: 15:29* *Taken by: SH*

Photo 17 East end of FHWA excavation with oil/water sump pit approximately 20 feet below ground surface (bgs).

Direction: East-Northeast *Date: 6/29/12* *Time: 13:59* *Taken by: SH*

Photo 18 Large subsurface structure being broken up by hydraulic hammer.

Direction: Southwest *Date: N/A* *Time: N/A* *Taken by: EQM*

Photo 19 Oil seeping from river bank area.

Direction: Down *Date: 7/19/12* *Time: 08:31* *Taken by: VG*

Photo 20 Oil seeping from river bank area.

Direction: Down *Date: 7/21/12* *Time: 13:03* *Taken by: VG*

Photo 21 Using absorbent pads to collect exposed free product seep along river bank.

Direction: Southeast *Date: 7/21/12* *Time: N/A* *Taken by: EQM*

Photo 22 Coffer dam installation along river bank.

Direction: Southeast *Date: 7/21/12* *Time: N/A* *Taken by: EQM*

Photo 23 Coffer dam installation along river bank.

Direction: Southwest *Date: 7/22/12* *Time: N/A* *Taken by: EQM*

AVERY LANDING SITE
Avery , Idaho

TDD Number: 12-05-0006
Photographed by: Steve Hall (SH), Michael Worden (MW), Jim Petersen (JP), Vincent Gee (VG), Earl Liverman (EPA), Jason Coury (EQM)

Photo 24 Visible sheen being absorbed and contained by boom and coffer dam while performing activities adjacent to river.

Direction: East *Date*: 8/8/12 *Time*: 10:46 *Taken by*: JP

Photo 25 Concrete platform/vault being broken by a hydraulic hammer while contaminated material is excavated .

Direction: Southeast *Date*: 7/31/12 *Time*: N/A *Taken by*: EPA

Photo 26 Visible contamination near the former location of the Potlatch free product recovery system (FPRS).

Direction: North *Date*: 7/31/12 *Time*: 14:52 *Taken by*: MW

Photo 27 Residual oil in Idaho Department of Lands (IDL) excavation.

Direction: South *Date*: 8/8/12 *Time*: 14:15 *Taken by*: JP

Photo 28 Installing geotextile barrier on Potlatch/IDL transition area.

Direction: East *Date: 8/13/12* *Time: 10:55* *Taken by: JP*

Photo 29 Excavating building foundation with bricks and bunker oil on the eastern end of Bentcik property.

Direction: West-Southwest *Date: 8/14/12* *Time: 15:55* *Taken by: JP*

Photo 30 Building foundation on east end of Bentcik after excavating soil and debris.

Direction: East-Southeast *Date: 8/15/12* *Time: 10:30* *Taken by: JP*

Photo 31 Installed geotextile barrier and placing clean soil in Potlatch/FHWA transition area.

Direction: West *Date: 8/17/12* *Time: 12:00* *Taken by: JP*

Photo 32 Vault in Potlatch/FHWA transition area sidewall.

Direction: South *Date: 8/20/12* *Time: 09:42* *Taken by: SH*

Photo 33 Excavation of oily area of eastern Bentcik wall.

Direction: Southeast *Date: 8/22/12* *Time: 15:11* *Taken by: SH*

Photo 34 Eastern Bentcik sidewall below mule barn.

Direction: East *Date: 8/22/12* *Time: 15:19* *Taken by: SH*

Photo 35 Culverts under highway and driveway for drainage ditch on Bentcik property.

Direction: North *Date: N/A* *Time: N/A* *Taken by: EQM*

Photo 36 View of drainage ditch to river on Bentcik property.

Direction: South *Date: N/A* *Time: N/A* *Taken by: EQM*

Photo 37 Bentcik property restoration.

Direction: Southwest *Date: N/A* *Time: N/A* *Taken by: EQM*

Photo 38 Avery Landing Site restoration.

Direction: Northeast *Date: N/A* *Time: N/A* *Taken by: EQM*

Photo 39 Avery Landing Site restoration.

Direction: Northwest *Date: N/A* *Time: N/A* *Taken by: EQM*

Photo 40 Bentcik cabin after return to permanent location.

Direction: Southeast *Date: N/A* *Time: N/A* *Taken by: EQM*

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B Compaction Testing Results

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DAILY PROJECT FIELD REPORT

Project:	US-95 Sandpoint to Kootenai Cut-Off	Project #:	112-088T
Project Address:	Sandpoint to Kootenai Cut-Off	Weather:	Rain
Permit #		Date:	6/18/2012
Page	1 of 1		
Daily Sheet #	11385	Technician:	Shane Warner
Type of Testing / Inspection:	Compaction		
Deficiencies Noted:	X NO		YES If yes, explain below
Reported To:	Deviel	of	Hallmark Homes

Narrative:

ALLWEST on site as requested for Nuclear Density test on Schweitzer Cut-Off Road. Test performed approximately 9+65 2 meters left. Sample obtained under gauge and transported to lab trailer.

Representative: Shane Warner	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SFD		X	**Nuke**		**Coring Machine/Generator**		
			Other Type:		**Quantity**		
Field Samples Obtained							

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site			Project #:	112-089T
Project Address:	Avery, Idaho			Weather:	Sunny
Permit #		Date:	7/11/2012	Page	1 of 1
Daily Sheet #	11717			Technician:	Marc Swearingen
Type of Testing / Inspection:	Soil Sample Pick Up				
Deficiencies Noted:	x	NO		YES	If yes, explain below
Reported To:		of			

Narrative:

Obtained a sample of back fill material (item#704.03) from a stockpile on site and transported jit to the Hayden Laboratory for testing. Travel time and mileage for today are split between Avery Landing Site (Project#112-089T) and Avery QC (Project#112-271T).

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SSP			**Nuke**		**Coring Machine/Generator**		
			Other Type:		**Quantity**		
Field Samples Obtained							

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LABORATORY SUMMARY

Project Name:	Avery Landing Site	**Source:**	
Client Name:	Environmental Quality Management Inc.	**Project No.:**	112-089T
Sample Location:	On site stockpile	**Report Date:**	7/12/2012

LAB SAMPLE NUMBER:	S112-792					
SAMPLED BY:	M. Swearingen					
DATE SAMPLED:	7/11/2012					
MATERIAL:	Backfill Material (704.03)					
TEST PERFORMED	**SPEC.**	**RESULTS**				
Sieve Analysis of Fine and Coarse Aggregates (AASHTO T 27, ASTM C 136)						
Percent Retained on 3/4" Sieve	30 Max.	**57.0**				
Notes:	**MATERIAL IS TOO ROCKY FOR NUCLEAR DENSITY TESTING.**					

Reviewed By: Jon M Gardner **Date:** 7-12-12

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site			Project #:	112-089T
Project Address:	Avery, Idaho			Weather:	Sunny
Permit #		Date:	8/15/2012	Page	1 of 2
Daily Sheet #	12152			Technician:	Marc Swearingen
Type of Testing / Inspection:	Density Testing				
Deficiencies Noted:	x	NO		YES	If yes, explain below
Reported To:	Jason Coury	of	Environmental Quality Management, Inc.		

Narrative:

Arrived on site as scheduled to conduct density testing on the back fill material in the back fill area next to the river. Test results ranged from 92% to 99% of maximum dry density of a modified proctor. See attached density sheet for elevations and locations.

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SFD		x	**Nuke**		**Coring Machine/Generator**		
			Other Type:			**Quantity**	
Field Samples Obtained							

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Field Density Test Report for Soils

ASTM 6938

Daily Sheet # 12152 Page 2 of 2

Project Name: Avery Landing Site		Project No.: 112-089T	
Date: 8/15/2012	Weather: Sunny	Test Method: Nuke	Gauge:
Location: Back Fill Next to River		Technician: Marc Swearingen	M.S.:
Contractor: Environmental Quality Management, Inc.			D.S.:

	Proctor Number	Soil Description	Optimum Moisture	Maximum Density	Standard/Modified
1	S112-1141	Back Fill Material	5.2	138.1	Modified
2					
3					

Test Number	Test Location	Elevation	Proctor Number	Probe Depth	% Moisture	Dry Density	% Compaction	Required Compaction	Re-Test of Test No.
1	20' East of West End	10' BSG	1	8"	6.9	131.9	96	90%	
2	80' East of West End	10' BSG	1	8"	7.4	130.1	94	90%	
3	130' East of West End	10' BSG	1	8"	5.8	128.6	93	90%	
4	10' East of West End	8' BSG	1	8"	5.9	126.5	92	90%	
5	50' East of West End	8' BSG	1	8"	6.2	136.9	99	90%	
6	160' East of West End	8' BSG	1	8"	6.5	130.6	95	90%	
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site	Project #:	112-089T
Project Address:	Avery, Idaho	Weather:	Sunny
Permit #	Date: 8/7/2012	Page	1 of 1
Daily Sheet #	12043	Technician:	Marc Swearingen
Type of Testing / Inspection:	Sample pick up		
Deficiencies Noted:	X NO		YES If yes, explain below
Reported To:	of		

Narrative:

Obtained a sample of backfill material (item #704.03) from a stockpile on site and transported it to the Hayden lab for testing. Travel time and mileage for today are split between project #112-089T (Avery Landing Site) and project #112-271T (Avery QC).

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SSP			**Nuke**		**Coring Machine/Generator**		
			Other Type:		**Quantity**		
Field Samples Obtained	**1 bag backfill material**						

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site	Project #:	112-089T
Project Address:	Avery, Idaho	Weather:	Sunny
Permit #	Date: 8/10/2012	Page	1 of 1
Daily Sheet #	12050	Technician:	Marc Swearingen
Type of Testing / Inspection:	Sample pick-up		
Deficiencies Noted:	X NO		YES If yes, explain below
Reported To:	of		

Narrative:

ALLWEST arrived onsite as scheduled to obtain a sample of backfill material and transport it to the Hayden laboratory for a proctor test. Travel time and mileage for today will be split between project #112-089T (Avery Landing Site) and project #112-271T (Avery QC).

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SSP			**Nuke**		**Coring Machine/Generator**		
			Other Type:		**Quantity**		
Field Samples Obtained							

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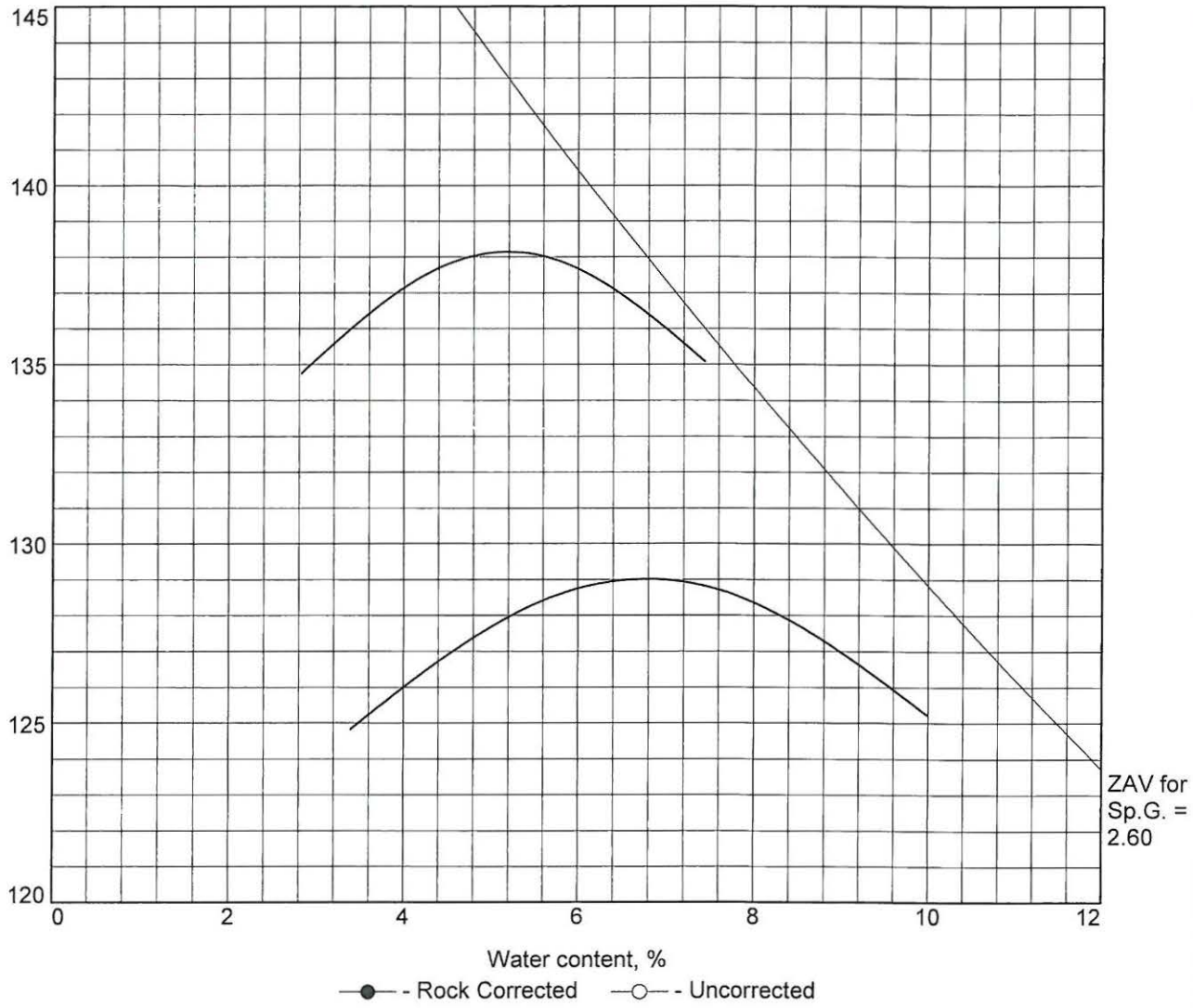
Moisture Density Curve



Test specification: ASTM D 1557-07 Method C Modified
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
			NA		NA	NA	30	

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 138.1 pcf	129.0 pcf	Dark Brown Silty Gravel with Cobble
Optimum moisture = 5.2 %	6.8 %	

Project No. 112-089T **Client:** Environmental Quality Management Inc.
Project: Avery Landing Site
Date: 8/10/2012
○ **Location:** On-site Stockpile **Sample Number:** S112-1141

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Hayden, ID

Remarks:
Sampled By: M Swearingen
Sample Date: 8/10/2012

Checked by: [signature]

Tested By: J Keith **Checked By:** C McKissen

MOISTURE DENSITY TEST DATA

8/15/2012

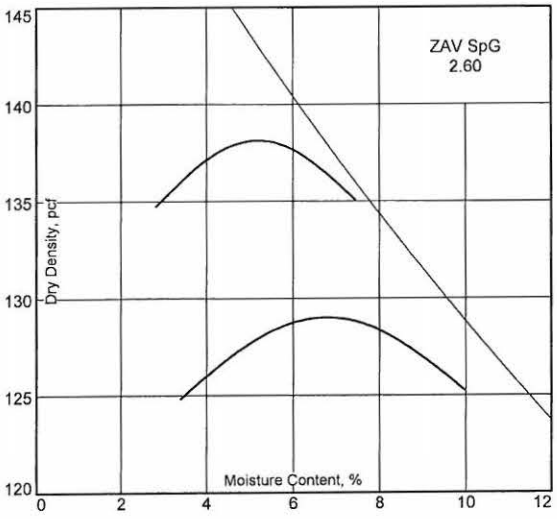
Client: Environmental Quality Management Inc.
Project: Avery Landing Site
Project Number: 112-089T
Location: On-site Stockpile
Sample Number: S112-1141
Description: Dark Brown Silty Gravel with Cobble
Test Date: 8/10/2012 **Natural Moisture:** NA
Liquid Limit: NA **Plasticity Index:** NA
Testing Remarks: Sampled By: M Swearingen
Sample Date: 8/10/2012
Tested by: J Keith **Checked by:** C McKissen

Test Data and Results

Test Specification:

Type of Test: ASTM D 1557-07 Method C Modified

Mold Dia: 6.00 **Hammer Wt.:** 10 lb. **Drop:** 18 in. **Layers:** five **Blows per Layer:** 56



Point No.	1	2	3	4
Wt. M+S	24.46	24.40	24.24	23.75
Wt. M	14.07	14.07	14.07	14.07
Wt. W+T	881.4	1037.8	856.3	862.2
Wt. D+T	831.5	959.8	817.6	838.4
Tare	181.5	178.6	126.3	137.1
Moist.	7.7	10.0	5.6	3.4
Moist.*	5.8	7.4	4.4	2.8
Dry Den.*	137.9	135.1	137.7	134.8

Rock Corrected Results: **Max. Dry Den.=** 138.1 pcf **Opt. Moist.=** 5.2%
Uncorrected Results: **Max. Dry Den.=** 129.0 pcf **Opt. Moist.=** 6.8%

Rock Correction Data:

Correction Method: ASTM D 4718-87

Percentage of Oversize Material (%> 3/4 in.): 30 **Bulk Specific Gravity of Oversize Material:** 2.65

Oversize Material Moisture Content: 1.50

*Note: the rock correction was applied to every test point's density and moisture value.

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site	Project #:	112-089T
Project Address:	Avery, Idaho	Weather:	Sunny
Permit #		Date: 8/20/2012	Page 1 of 2
Daily Sheet #	12189	Technician:	Marc Swearingen
Type of Testing / Inspection:	Density testing		
Deficiencies Noted:	X NO		YES If yes, explain below
Reported To:	Jason Coury	of	EQM

Narrative:

ALLWEST arrived onsite as scheduled to conduct density testing on the backfill material in the backfill area next to the river and the backfill area next to the highway. Test results ranged from 92% to 97% of maximum dry density of a modified proctor. Tests in locations tested met the project specifications. See attached density sheet for elevations and locations.

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SFD		X	**Nuke**		**Coring Machine/Generator**		
			Other Type:		**Quantity**		
Field Samples Obtained							

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Field Density Test Report for Soils

ASTM 6938

Daily Sheet # 12189 Page 2 of 2

Project Name: Avery Landing Site		Project No.: 112-089T	
Date: 8/20/2012	Weather: Sunny	Test Method: Nuke	Gauge:
Location: Backfill next to river, backfill next to highway		Technician: Marc Swearingen	M.S.:
Contractor:			D.S.:

	Proctor Number	Soil Description	Optimum Moisture	Maximum Density	Standard/Modified
1	S112-1141	Backfill material	5.2	138.1	Modified
2					
3					

Test Number	Test Location	Elevation	Proctor Number	Probe Depth	% Moisture	Dry Density	% Compaction	Required Compaction	Re-Test of Test No.
	Backfill next to river								
1	40' east of west end	SG	1	8"	6.0	126.9	92	90%	
2	170' east of west end	2'BSG	1	8"	5.1	132.0	96	90%	
3	260' east of west end	4'BSG	1	8"	5.9	131.4	95	90%	
	Backfill next to highway								
4	75' east of west end	8'BSG	1	8"	5.5	134.2	97	90%	
5	90' east of west end	8'BSG	1	8"	6.4	127.0	92	90%	

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site	Project #:	112-089T
Project Address:	Avery, Idaho	Weather:	Sunny
Permit #		Date: 8/24/2012	Page 1 of 2
Daily Sheet #	12247	Technician:	Marc Swearingen
Type of Testing / Inspection:	Density Testing		
Deficiencies Noted:	x NO		YES If yes, explain below
Reported To:	Jason Coury	of	EQM

Narrative:

Arrived on site as scheduled to conduct density testing on the back fill material in the back fill area next to the highway. Test results ranged from 92% to 97% for maximum dry density of a modified proctor. See attached density sheet for elevations and locations.

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		Equipment					
SFD		x	Nuke		Coring Machine/Generator		
			Other Type:			Quantity	
Field Samples Obtained							

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Field Density Test Report for Soils

ASTM 6938

Daily Sheet # 12247 Page 2 of 2

Project Name: Avery Landing Site		Project No.: 112-089T	
Date: 8/24/2012	Weather: Sunny	Test Method: Nuke	Gauge:
Location: Back Fill Next to Highway		Technician: Marc Swearingen	M.S.:
Contractor: EQM			D.S.:

	Proctor Number	Soil Description	Optimum Moisture	Maximum Density	Standard/Modified
1	S112-1141	Back Fill Material	5.2	138.1	Modified
2					
3					

Test Number	Test Location	Elevation	Proctor Number	Probe Depth	% Moisture	Dry Density	% Compaction	Required Compaction	Re-Test of Test No.
1	20' East of West End	SG	1	8"	6.2	127.0	92	90%	
2	120' East of West End	10' BSG	1	8"	4.9	131.5	95	90%	
3	210' East of West End	10' BSG	1	8"	5.5	134.0	97	90%	
4	250' East of West End	8' BSG	1	8"	5.8	128.1	93	90%	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site			Project #:	112-089T
Project Address:	Avery, Idaho			Weather:	Sunny
Permit #		Date:	8/28/2012	Page	1 of 2
Daily Sheet #	12279			Technician:	Marc Swearingen
Type of Testing / Inspection:	Density Testing				
Deficiencies Noted:	x	NO		YES	If yes, explain below
Reported To:	Jason Coury	of	EQM		

Narrative:

Arrived on site as scheduled to conduct density testing on the backfill material in the backfill area next to the highway. Test results ranged from 95% to 97% of maximum dry density of a modified proctor. See attached density sheet for elevations and locations.

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SFD		x	**Nuke**		**Coring Machine/Generator**		
			Other Type:			**Quantity**	
Field Samples Obtained							

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Field Density Test Report for Soils

ASTM 6938

Daily Sheet # 12279 Page 2 of 2

Project Name: Avery Landing Site		Project No.: 112-089T	
Date: 8/28/2012	Weather: Sunny	Test Method: Nuke	Gauge: 5577
Location: Backfill Area Next to Highway		Technician: Marc Swearingen	M.S.:
Contractor: EQM			D.S.:

	Proctor Number	Soil Description	Optimum Moisture	Maximum Density	Standard/Modified
1	S112-1141	Backfill Material	5.8	138.1	Modified
2					
3					

Test Number	Test Location	Elevation	Proctor Number	Probe Depth	% Moisture	Dry Density	% Compaction	Required Compaction	Re-Test of Test No.
1	260' East of West End	4' BSG	1	8"	7.1	131.4	95	90%	
2	270' East of West End	SG	1	8"	6.6	134.3	97	90%	
3	300' East of West End	SG	1	8"	6.9	133.0	96	90%	
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site	Project #:	112-089T
Project Address:	Avery, Idaho	Weather:	Sunny
Permit #		Date: 9/5/2012	Page 1 of 2
Daily Sheet #	12351	Technician:	Marc Swearingen
Type of Testing / Inspection:	Density Testing		
Deficiencies Noted:	x NO		YES If yes, explain below
Reported To:	Jason Coury	of	EQM

Narrative:

Arrived on site as scheduled to conduct density testing on the backfill material in the backfill area next to the highway. Test results ranged from 97% to 98% of maximum dry density of a modified proctor. See attached density sheet for elevations and locations.

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		Equipment					
SFD		x	Nuke		Coring Machine/Generator		
			Other Type:		Quantity		
Field Samples Obtained							

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Field Density Test Report for Soils

ASTM 6938

Daily Sheet # 12351 Page 2 of 2

Project Name: Avery Landing Site		Project No.: 112-089T	
Date: 9/5/2012	Weather: Sunny	Test Method: ASTM D 6938	Gauge:
Location: Backfill area next to Highway		Technician: Marc Swearingen	M.S.:
Contractor: EQM			D.S.:

	Proctor Number	Soil Description	Optimum Moisture	Maximum Density	Standard/Modified
1	S112-1141	Backfill material	5.8	138.1	
2					
3					

Test Number	Test Location	Elevation	Proctor Number	Probe Depth	% Moisture	Dry Density	% Compaction	Required Compaction	Re-Test of Test No.
1	240' E of W end	4' BSG	1	8"	4.9	134.4	97	90%	
2	250' E of W end	2' BSG	1	8"	6.6	136.0	98	90%	
3	250' E of W end	SG	1	8"	6.0	135.1	98	90%	
4	260' E of W end	SG	1	8"	6.8	134.9	98	90%	

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DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site	Project #:	112-089T
Project Address:	Avery, Idaho	Weather:	Partly Cloudy
Permit #		Date: 9/10/2012	Page 1 of 2
Daily Sheet #	12382	Technician:	Marc Swearingen
Type of Testing / Inspection:	Density Testing		
Deficiencies Noted:	x NO		YES If yes, explain below
Reported To:	Jason Coury	of	EQM

Narrative:

Arrived on site as scheduled to conduct density testing on the backfill material in the backfill area next to the highway. Test results ranged from 95% to 98% of maximum dry density of a modified proctor. See attached density sheet for elevations and locations.

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SFD		x	**Nuke**		**Coring Machine/Generator**		
			Other Type:			**Quantity**	
Field Samples Obtained							

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www.allwesttesting.com

ALLWEST
Testing & Engineering

Field Density Test Report for Soils

ASTM 6938

Daily Sheet # 12382 Page 2 of 2

Project Name: Avery Landing Site		Project No.: 112-089T	
Date: 9/10/2012	Weather: Partly Cloudy	Test Method: ASTM D 6938	Gauge:
Location: Backfill area next to Highway		Technician: Marc Swearingen	M.S.:
Contractor: EQM			D.S.:

	Proctor Number	Soil Description	Optimum Moisture	Maximum Density	Standard/Modified
1	S112-1141	Backfill Material	5.8	138.1	Modified
2					
3					

Test Number	Test Location	Elevation	Proctor Number	Probe Depth	% Moisture	Dry Density	% Compaction	Required Compaction	Re-Test of Test No.
1	220' E of W end	2' BSG	1	8"	7.4	131.5	95	90%	
2	200' E of W end	2' BSG	1	8"	7.1	133.9	97	90%	
3	220' E of W end	2' BSG	1	8"	7.7	132.1	96	90%	
4	200' E of W end	2' BSG	1	8"	6.3	134.5	97	90%	
5	240' E of W end	2' BSG	1	8"	5.9	134.8	98	90%	

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2127 2nd Avenue North • Lewiston, ID 83501 • Phone (208) 743-5710 • Fax (208) 743-8270

ALLWEST Testing & Engineering

DAILY PROJECT FIELD REPORT

Project:	Avery Landing Site			Project #:	112-089T
Project Address:	Avery, Idaho			Weather:	Sunny
Permit #		Date:	9/13/2012	Page 1 of 2	
Daily Sheet #	12545			Technician:	Marc Swearingen
Type of Testing / Inspection:	Density Testing				
Deficiencies Noted:	x	NO		YES	If yes, explain below
Reported To:	Jason Coury	of	EQM		

Narrative:

Arrived on site as scheduled to conduct density testing on the back fill material in the back fill area next to the highway. Test results ranged from 95% to 97% of maximum dry density of a modified proctor. See attached density sheet for elevations and locations.

Representative: Marc Swearingen	Received By:
This report shall be considered preliminary until reviewed and countersigned by the ALLWEST Project Manager	Reviewed By:

Codes		**Equipment**					
SFD		x	**Nuke**		**Coring Machine/Generator**		
			Other Type:			**Quantity**	
Field Samples Obtained							

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ALLWEST
Testing & Engineering

Field Density Test Report for Soils

ASTM 6938

Daily Sheet # 12545 Page 2 of 2

Project Name: Avery Landing Site		Project No.: 112-089T	
Date: 9/13/2012	Weather: Sunny	Test Method: Nuke	Gauge: 2262
Location: Back Fill Area Next To Highway		Technician: Marc Swearingen	M.S.:
Contractor: EQM			D.S.:

	Proctor Number	Soil Description	Optimum Moisture	Maximum Density	Standard/Modified
1	S112-1141	Backfill Material	5.8	138.1	Modified
2					
3					

Test Number	Test Location	Elevation	Proctor Number	Probe Depth	% Moisture	Dry Density	% Compaction	Required Compaction	Re-Test of Test No.
1	150' East of West End	6' BSG	1	8"	6.1	131.6	95	90%	
2	160' East of West End	6' BSG	1	8"	6.6	133.5	97	90%	
3	170' East of West End	4' BSG	1	8"	6.5	134.4	97	909%	
4	180' East of Weat End	4'BSG	1	8"	7.2	132.3	96	90%	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									

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C Site Topographic Maps

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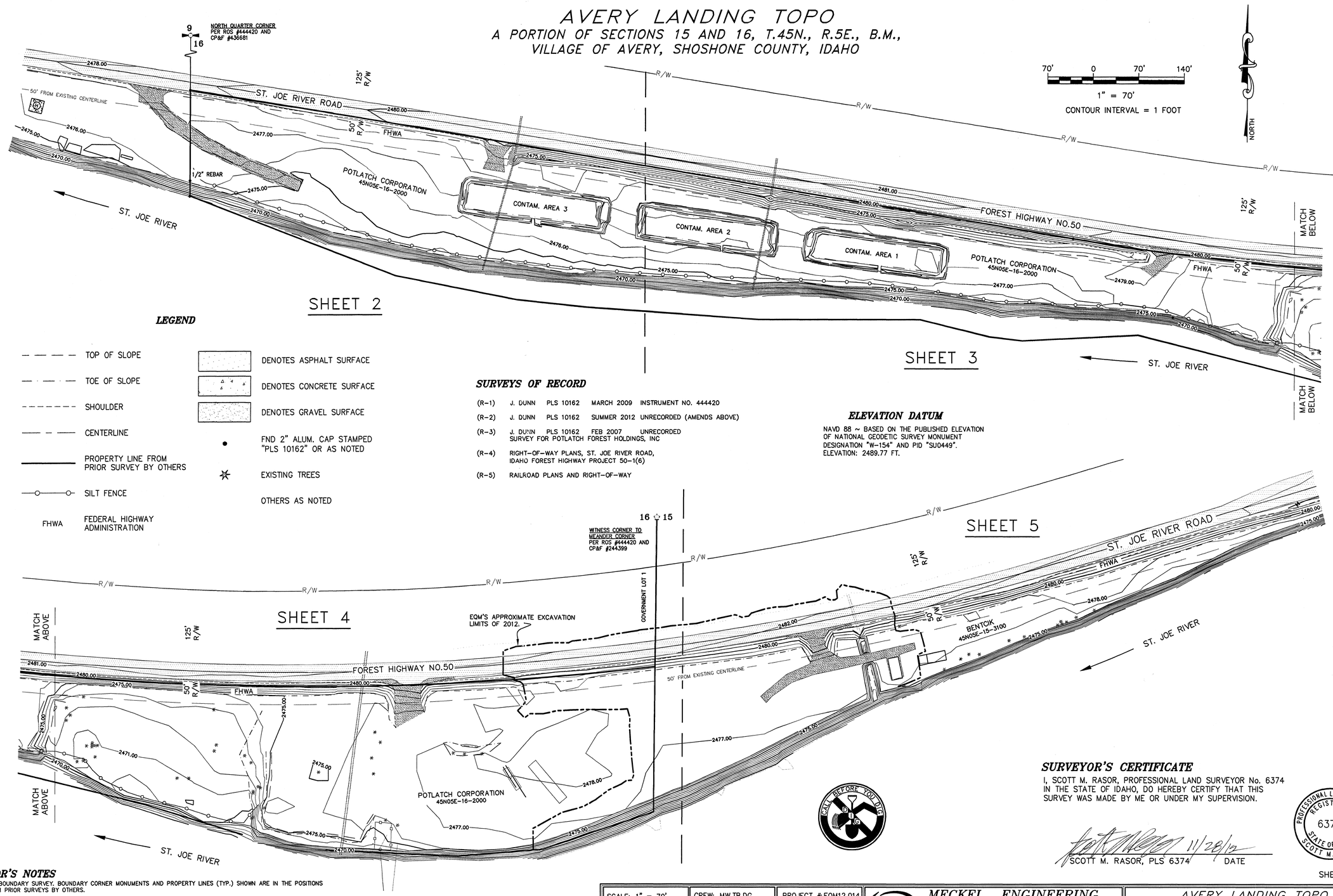
AVERY LANDING TOPO

A PORTION OF SECTIONS 15 AND 16, T.45N., R.5E., B.M., VILLAGE OF AVERY, SHOSHONE COUNTY, IDAHO



LEGEND

- TOP OF SLOPE
- TOE OF SLOPE
- SHOULDER
- CENTERLINE
- PROPERTY LINE FROM PRIOR SURVEY BY OTHERS
- SILT FENCE
- FHWA — FEDERAL HIGHWAY ADMINISTRATION
- DENOTES ASPHALT SURFACE
- DENOTES CONCRETE SURFACE
- DENOTES GRAVEL SURFACE
- FND 2" ALUM. CAP STAMPED "PLS 10162" OR AS NOTED
- EXISTING TREES
- OTHERS AS NOTED

SURVEYS OF RECORD

(R-1) J. DUNN PLS 10162 MARCH 2009 INSTRUMENT NO. 444420

(R-2) J. DUNN PLS 10162 SUMMER 2012 UNRECORDED (AMENDS ABOVE)

(R-3) J. DUNN PLS 10162 FEB 2007 UNRECORDED
SURVEY FOR POTLATCH FOREST HOLDINGS, INC

(R-4) RIGHT-OF-WAY PLANS, ST. JOE RIVER ROAD,
IDAHO FOREST HIGHWAY PROJECT 50-1(6)

(R-5) RAILROAD PLANS AND RIGHT-OF-WAY

ELEVATION DATUM

NAVD 88 ~ BASED ON THE PUBLISHED ELEVATION OF NATIONAL GEODETIC SURVEY MONUMENT DESIGNATION "W-154" AND PID "SU0449".
ELEVATION: 2489.77 FT.

SURVEYOR'S NOTES

1) THIS IS NOT A BOUNDARY SURVEY. BOUNDARY CORNER MONUMENTS AND PROPERTY LINES (TYP.) SHOWN ARE IN THE POSITIONS AS FOUND FROM PRIOR SURVEYS BY OTHERS.

2) SUBTERRANEAN STRUCTURES AND UTILITIES SUCH AS GAS LINES, WATER LINES, STORM AND SANITARY SEWER LINES, BURIED TANKS, TELEPHONE CABLES, TV CABLES, POWER LINES, ETC., WERE NOT LOCATED, EXCEPT AS SHOWN. THE LOCATIONS INDICATED ARE FROM THE BEST AVAILABLE EVIDENCE, I.E.: SURFACE INDICATIONS.

SURVEYOR'S CERTIFICATE

I, SCOTT M. RASOR, PROFESSIONAL LAND SURVEYOR No. 6374 IN THE STATE OF IDAHO, DO HEREBY CERTIFY THAT THIS SURVEY WAS MADE BY ME OR UNDER MY SUPERVISION.

SCOTT M. RASOR, PLS 6374 — DATE 11/28/12

PROFESSIONAL LAND SURVEYOR REGISTERED 6374 STATE OF IDAHO SCOTT M. RASOR

CALL BEFORE YOU DIG

SHEET 1 OF 5

SCALE: 1" = 70'	CREW: MW,TB,DG	PROJECT #: EQM12.014	MECKEL ENGINEERING & SURVEYING
DATE: NOV 28, 2012	DRAWN BY: MDW	DWG: 12.014	7600 N. GOVERNMENT WAY, COEUR d'ALENE, IDAHO, 83815 (208)667-4638
SHEET 1 OF 5	APPROVED BY:	REF: EQM	AVERY LANDING TOPO — A PORTION OF SECTIONS 15 AND 16, T.45N., R.5E., B.M., VILLAGE OF AVERY, SHOSHONE COUNTY, IDAHO

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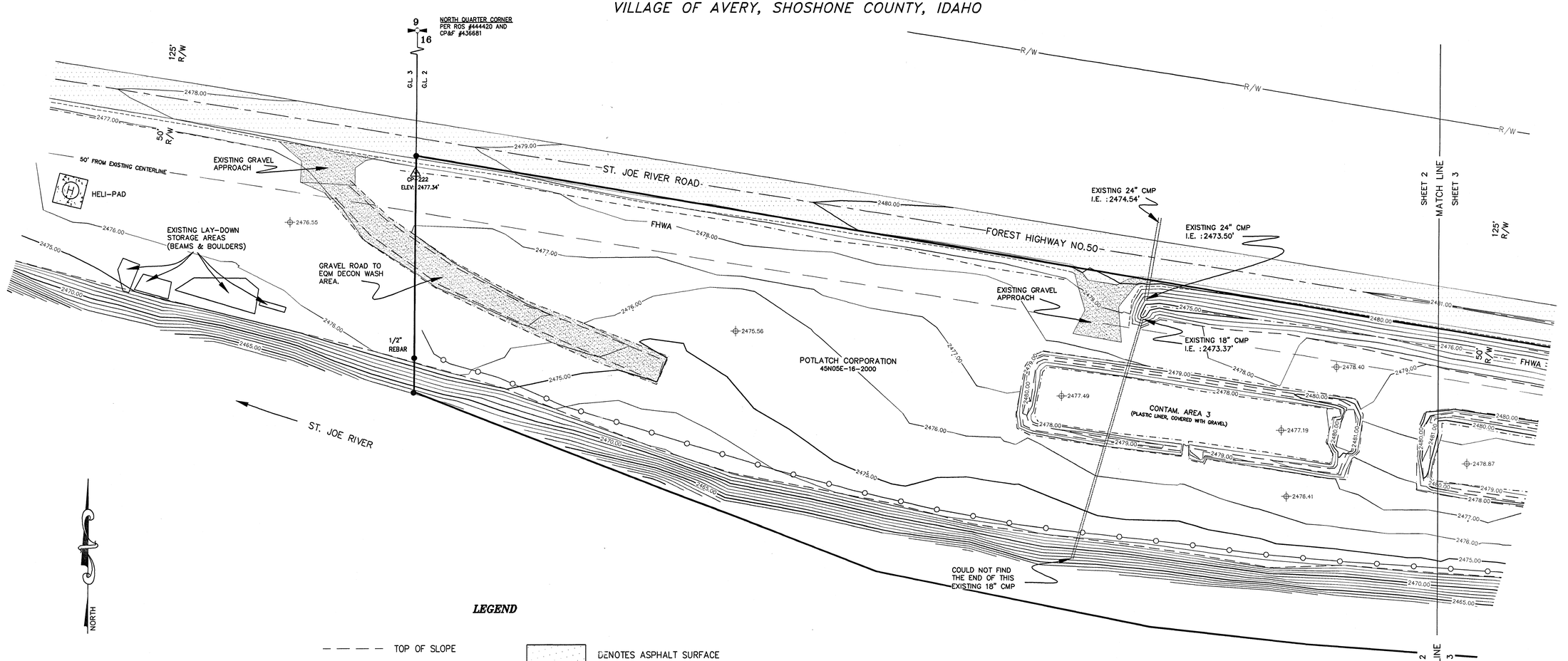
AVERY LANDING TOPO

A PORTION OF SECTIONS 15 AND 16, T.45N., R.5E., B.M., VILLAGE OF AVERY, SHOSHONE COUNTY, IDAHO



NORTH

35' 0 35' 70'

1" = 35'

CONTOUR INTERVAL = 1 FOOT

LEGEND

TOP OF SLOPE	DENOTES ASPHALT SURFACE
TOE OF SLOPE	DENOTES CONCRETE SURFACE
SHOULDER	DENOTES GRAVEL SURFACE
CENTERLINE	FND 2" ALUM. CAP STAMPED "PLS 10162" OR AS NOTED
PROPERTY LINE FROM PRIOR SURVEY BY OTHERS	G.L. GOVERNMENT LOT
SILT FENCE	OTHERS AS NOTED
FHWA FEDERAL HIGHWAY ADMINISTRATION	

SURVEYS OF RECORD

(R-1) J. DUNN PLS 10162 MARCH 2009 INSTRUMENT NO. 444420

(R-2) J. DUNN PLS 10162 SUMMER 2012 UNRECORDED (AMENDS ABOVE)

(R-3) J. DUNN PLS 10162 FEB 2007 UNRECORDED SURVEY FOR POTLATCH FOREST HOLDINGS, INC

(R-4) RIGHT-OF-WAY PLANS, ST. JOE RIVER ROAD, IDAHO FOREST HIGHWAY PROJECT 50-1(6)

(R-5) RAILROAD PLANS AND RIGHT-OF-WAY

ELEVATION DATUM

NAVD 88 ~ BASED ON THE PUBLISHED ELEVATION OF NATIONAL GEODETIC SURVEY MONUMENT DESIGNATION "W-154" AND PID "SU0449". ELEVATION: 2489.77 FT.

SURVEYOR'S NOTES

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2) SUBTERRANEAN STRUCTURES AND UTILITIES SUCH AS GAS LINES, WATER LINES, STORM AND SANITARY SEWER LINES, BURIED TANKS, TELEPHONE CABLES, TV CABLES, POWER LINES, ETC., WERE NOT LOCATED, EXCEPT AS SHOWN. THE LOCATIONS INDICATED ARE FROM THE BEST AVAILABLE EVIDENCE, I.E.: SURFACE INDICATIONS.

CALL BEFORE YOU DIG

PROFESSIONAL LAND SURVEYOR REGISTERED 6374 STATE OF IDAHO SCOTT M. RASOR

SCOTT M. RASOR, PLS 6374 — DATE 11/28/12

SCALE: 1" = 35' DATE: NOV 28, 2012 SHEET 2 OF 5	CREW: MW,TB,DG DRAWN BY: MDW APPROVED BY:	PROJECT #:EQM12.014 DWG:12.014 REF:EQM	MECKEL ENGINEERING & SURVEYING 7600 N. GOVERNMENT WAY, COEUR d'ALENE, IDAHO, 83815 (208)667-4638

AVERY LANDING TOPO
A PORTION OF SECTIONS 15 AND 16, T.45N., R.5E., B.M., VILLAGE OF AVERY, SHOSHONE COUNTY, IDAHO

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AVERY LANDING TOPO

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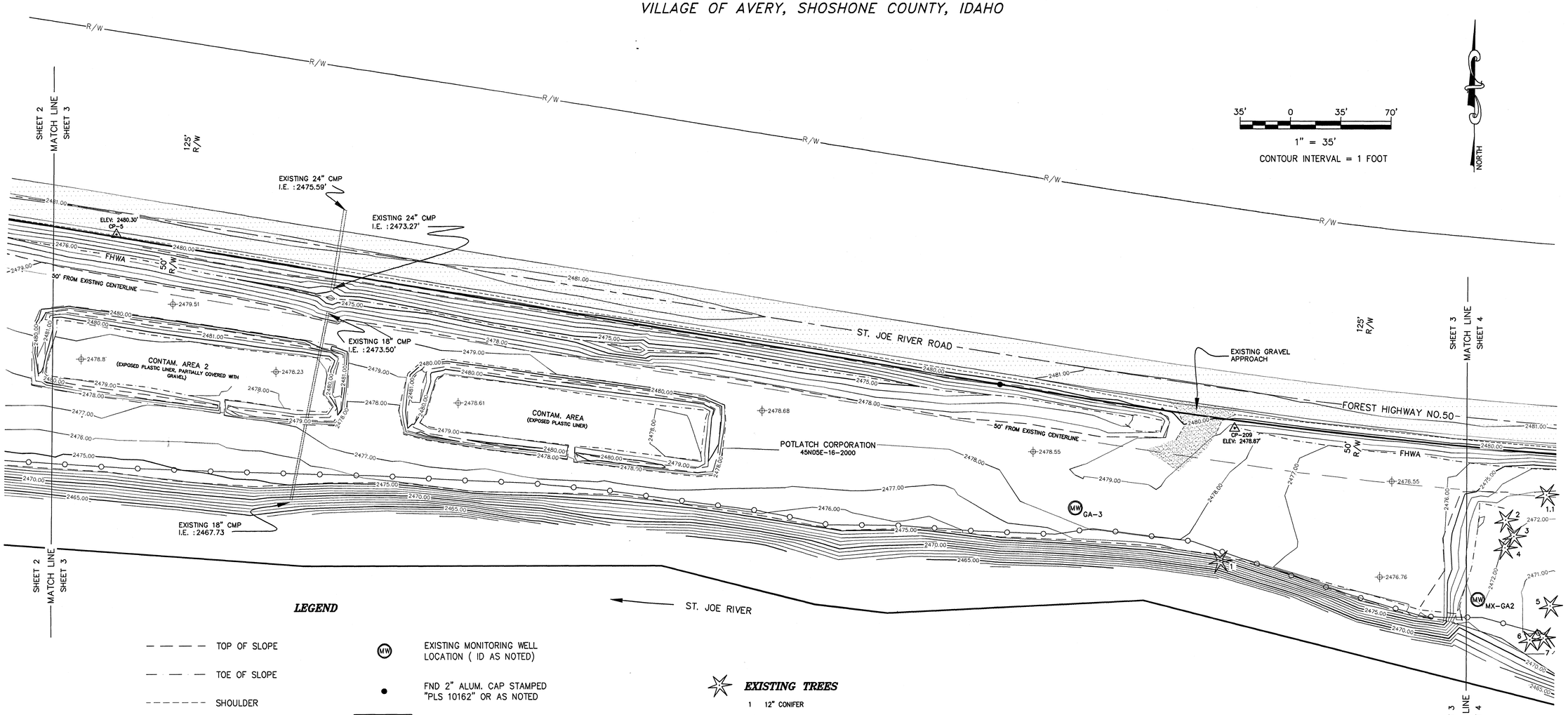

35' 0 35' 70'

1" = 35'

CONTOUR INTERVAL = 1 FOOT

NORTH

LEGEND

- TOP OF SLOPE
- TOE OF SLOPE
- SHOULDER
- CENTERLINE
- PROPERTY LINE FROM PRIOR SURVEY BY OTHERS
- SILT FENCE
- FHWA — FEDERAL HIGHWAY ADMINISTRATION
- MW — EXISTING MONITORING WELL LOCATION (ID AS NOTED)
- FND 2" ALUM. CAP STAMPED "PLS 10162" OR AS NOTED
- DENOTES ASPHALT SURFACE
- DENOTES CONCRETE SURFACE
- DENOTES GRAVEL SURFACE
- OTHERS AS NOTED

EXISTING TREES

1	12" CONIFER
1.1	MULTI-STEM DECIDUOUS
2	20" DECIDUOUS
3	4" DECIDUOUS
4	6" DECIDUOUS
5	22" DECIDUOUS
6	8" DECIDUOUS
7	12" DECIDUOUS

SURVEYS OF RECORD

(R-1) J. DUNN PLS 10162 MARCH 2009 INSTRUMENT NO. 444420

(R-2) J. DUNN PLS 10162 SUMMER 2012 UNRECORDED (AMENDS ABOVE)

(R-3) J. DUNN PLS 10162 FEB 2007 UNRECORDED
SURVEY FOR POTLATCH FOREST HOLDINGS, INC

(R-4) RIGHT-OF-WAY PLANS, ST. JOE RIVER ROAD,
IDAHO FOREST HIGHWAY PROJECT 50-1(6)

(R-5) RAILROAD PLANS AND RIGHT-OF-WAY

ELEVATION DATUM

NAVD 88 ~ BASED ON THE PUBLISHED ELEVATION OF NATIONAL GEODETIC SURVEY MONUMENT DESIGNATION "W-154" AND PID "SU0449". ELEVATION: 2489.77 FT.

CALL BEFORE YOU DIG

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PROFESSIONAL LAND SURVEYOR REGISTERED 6374 STATE OF IDAHO SCOTT M. RASOR

SCOTT M. RASOR, PLS 6374 — DATE 11/28/12

SCALE: 1" = 35' DATE: NOV 28, 2012 SHEET 3 OF 5	CREW: MW,TB,DG DRAWN BY: MDW APPROVED BY:	PROJECT #:EQM12.014 DWG:12.014 REF:EQM	MECKEL ENGINEERING & SURVEYING 7600 N. GOVERNMENT WAY, COEUR d'ALENE, IDAHO, 83815 (208)667-4638	AVERY LANDING TOPO A PORTION OF SECTIONS 15 AND 16, T.45N., R.5E., B.M., VILLAGE OF AVERY, SHOSHONE COUNTY, IDAHO

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AVERY LANDING TOPO

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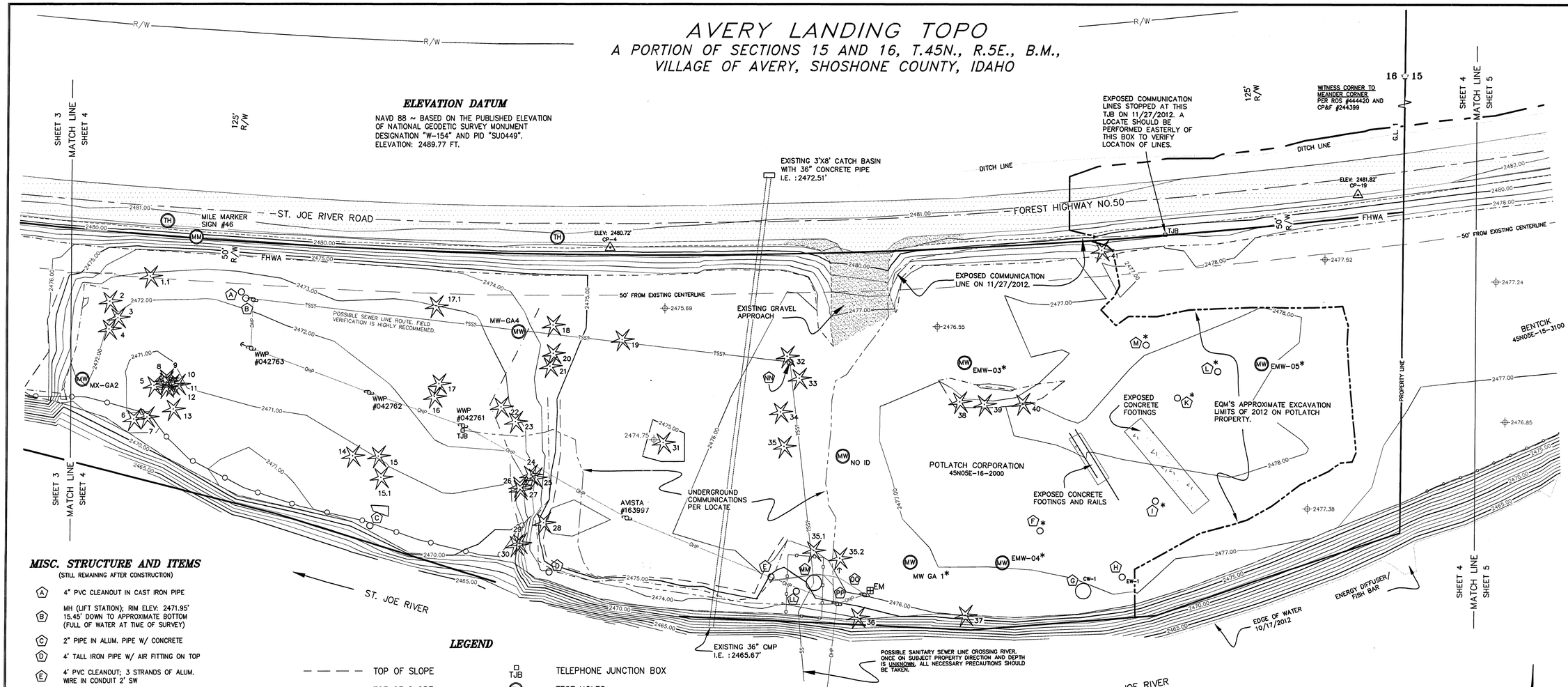

MISC. STRUCTURE AND ITEMS
(STILL REMAINING AFTER CONSTRUCTION)

- (A) 4" PVC CLEANOUT IN CAST IRON PIPE
- (B) MH (LIFT STATION); RIM ELEV: 2471.95' 15.45' DOWN TO APPROXIMATE BOTTOM (FULL OF WATER AT TIME OF SURVEY)
- (C) 2" PIPE IN ALUM. PIPE W/ CONCRETE
- (D) 4' TALL IRON PIPE W/ AIR FITTING ON TOP
- (E) 4' PVC CLEANOUT; 3 STRANDS OF ALUM. WIRE IN CONDUIT 2' SW
- (G) CMP 32" RISER W/ LOCKED STEEL LID
- (H) MH; RIM ELEV: 2477.96', DIRT BOTTOM ELEV: 2471.96' 12" PIPE I.E.: 2472.36'
- (LL) STEEL UPRIGHT SUPPORT FOR RIVER CROSSING TROLLEY
- (MW) 36" CMP, 8' TALL; POSSIBLE SEWER PIPE GOES INTO THIS STRUCTURE
- (NN) POSSIBLE SANITARY SEWER MAHHOLE (DIRECTION, PURPOSE – UNKNOWN)
- (QQ) 2 – 3" CONDIUT PIPING FROM POWER POLE WITH ELECTRIC METER
- (PP) 2 – 1" CONDIUT PIPING FROM POWER POLE WITH COMMUNICATION WIRES

* MISC. STRUCTURE AND ITEMS *
(POSSIBLY REMOVED OR DESTROYED DURING CONSTRUCTION. NO SURFACE INDICATIONS WHERE NOTICED. AREA WAS NOT IN THE DIG ZONE, SO ITEMS COULD BE BURIED. EVERY NECESSARY PRECAUTION SHOULD BE USED NEAR THESE LOCATIONS !)

- (F)* 4" PVC PIPE, 4' TALL
- (I)* 4" PVC PIPE, 4' TALL
- (K)* 4" PVC PIPE, 4' TALL
- (L)* 3" ABS, 3' TALL (POSSIBLE PEIZOMETER)
- (M)* 4" PVC PIPE, 3' TALL

LEGEND

- TOP OF SLOPE
- TOE OF SLOPE
- SHOULDER
- CENTERLINE
- PROPERTY LINE FROM PRIOR SURVEY BY OTHERS
- UNDERGROUND COMMUNICATIONS
- OHP OVERHEAD POWERLINES
- ?SS? POSSIBLE SEWER LINE
- 6 FOOT TALL CHAIN LINK FENCE
- SILT FENCE
- EROSION CONTROL WATTLES
- POWER POLE
- GUY ANCHOR
- EM ELECTRIC METER
- TJB TELEPHONE JUNCTION BOX
- (TH) TEST HOLES
- (MW) EXISTING MONITORING WELL LOCATION (ID AS NOTED)
- * POSSIBLE ITEMS DESTROYED/REMOVED/BURIED IN CONSTRUCTION
- ● FND 2" ALUM. CAP STAMPED "PLS 10162" OR AS NOTED
- ○ or ○ MISCELLANEOUS STRUCTURE (SEE CHART AT LEFT)
- DENOTES ASPHALT SURFACE
- DENOTES CONCRETE SURFACE
- DENOTES GRAVEL SURFACE
- FHWA FEDERAL HIGHWAY ADMINISTRATION
- OTHERS AS NOTED

EW-# / CW-# EXTRACTION WELL AND COLLECTION WELL REFERENCES TAKEN FROM JOHN DUNN'S, PLS 10162, SURVEY FOR POTLATCH FOREST HOLDINGS, INC. DATED FEBUARY 2007

TREES

1.1	MULTI-STEM DECIDUOUS	13	24" DECIDUOUS	23	36" DECIDUOUS	35	22" DECIDUOUS
2	20" DECIDUOUS	14	16" CONIFER	24	36" DECIDUOUS	35.1	MULTI-STEM DECIDUOUS
3	4" DECIDUOUS	15	20" DECIDUOUS	25	36" DECIDUOUS	35.2	MULTI-STEM DECIDUOUS
4	6" DECIDUOUS	15.1	MULTI-STEM DECIDUOUS	26	36" DECIDUOUS	36	8" CONIFER
5	22" DECIDUOUS	16	42" DECIDUOUS	27	24" DECIDUOUS	37	22" CONIFER
6	8" DECIDUOUS	17	36" DECIDUOUS	28	12" CONIFER	38	10" DECIDUOUS
7	12" DECIDUOUS	17.1	MULTI-STEM DECIDUOUS	29	16" DECIDUOUS	39	8" DECIDUOUS
8	16" DECIDUOUS	18	30" CONIFER	30	16" DECIDUOUS	40	10" DECIDUOUS
9	20" DECIDUOUS	19	±14" DECIDUOUS	31	±28" DECIDUOUS	41	±8" DECIDUOUS
10	24" DECIDUOUS	20	6" CONIFER	32	20" DECIDUOUS		
11	16" DECIDUOUS	21	10" CONIFER	33	±16" DECIDUOUS		
12	26" DECIDUOUS	22	48" DECIDUOUS	34	±16" DECIDUOUS		

SURVEYOR'S NOTES

1) THIS IS NOT A BOUNDARY SURVEY. BOUNDARY CORNER MONUMENTS AND PROPERTY LINES (TYP.) SHOWN ARE IN THE POSITIONS AS FOUND FROM PRIOR SURVEYS BY OTHERS.

2) SUBTERRANEAN STRUCTURES AND UTILITIES SUCH AS GAS LINES, WATER LINES, STORM AND SANITARY SEWER LINES, BURIED TANKS, TELEPHONE CABLES, TV CABLES, POWER LINES, ETC., WERE NOT LOCATED, EXCEPT AS SHOWN. THE LOCATIONS INDICATED ARE FROM THE BEST AVAILABLE EVIDENCE, I.E.: SURFACE INDICATIONS.

NORTH

35' 0 35' 70'

1" = 35'
CONTOUR INTERVAL = 1 FOOT

PROFESSIONAL LAND SURVEYOR REGISTERED 6374 STATE OF IDAHO SCOTT M. RASOR

SCOTT M. RASOR, PLS 6374 DATE 11/28/12

SCALE: 1" = 35' DATE: NOV 28, 2012 SHEET 4 OF 5	CREW: MW,TB,DG DRAWN BY: MDW APPROVED BY:	PROJECT #: EQM12.014 DWG: 12.014 REF: EQM	MECKEL ENGINEERING & SURVEYING 7600 N. GOVERNMENT WAY, COEUR d'ALENE, IDAHO, 83815 (208)667-4638

AVERY LANDING TOPO
A PORTION OF SECTIONS 15 AND 16, T.45N., R.5E., B.M., VILLAGE OF AVERY, SHOSHONE COUNTY, IDAHO

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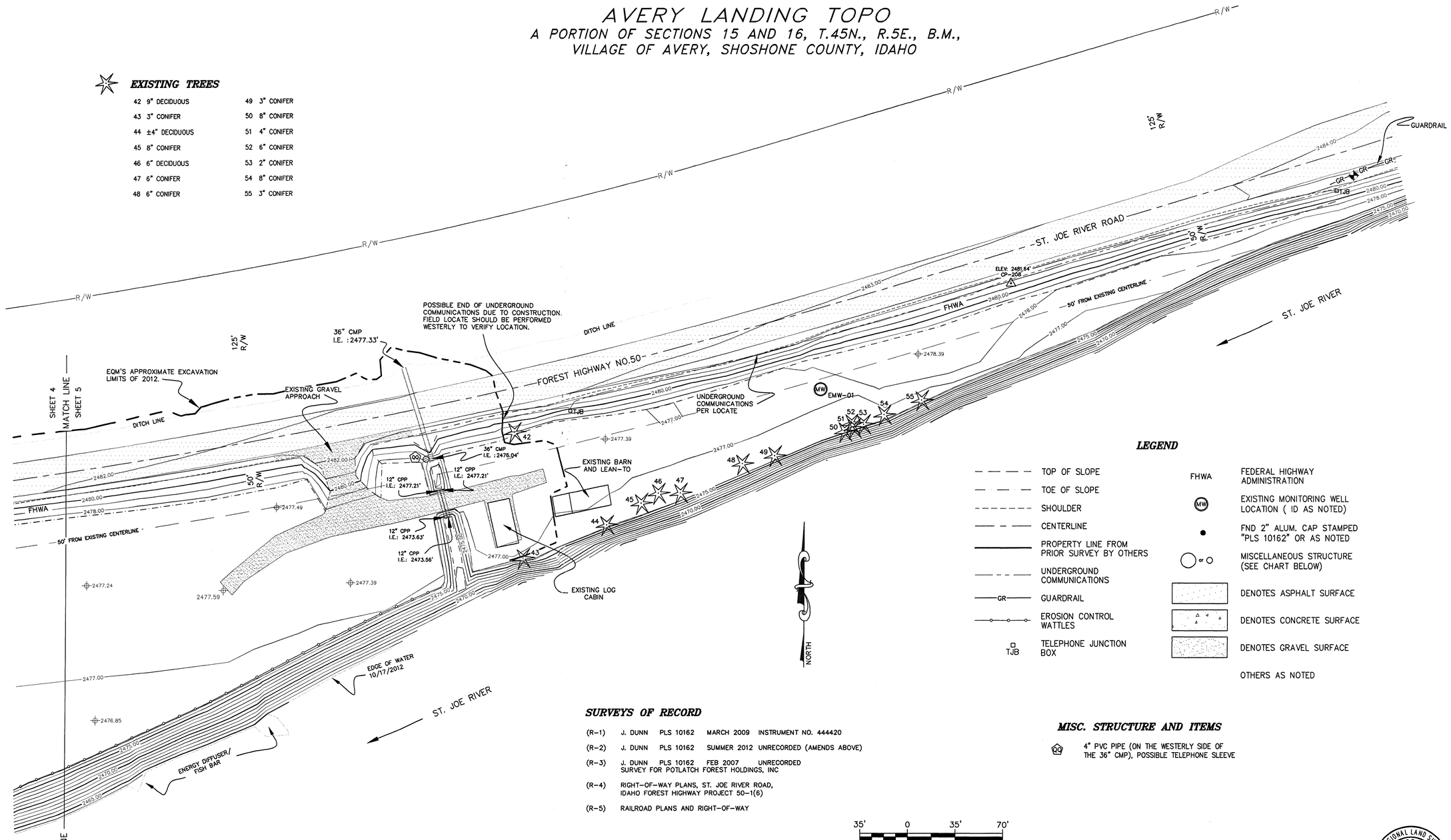
AVERY LANDING TOPO

A PORTION OF SECTIONS 15 AND 16, T.45N., R.5E., B.M., VILLAGE OF AVERY, SHOSHONE COUNTY, IDAHO



LEGEND

- TOP OF SLOPE
- TOE OF SLOPE
- SHOULDER
- CENTERLINE
- PROPERTY LINE FROM PRIOR SURVEY BY OTHERS
- UNDERGROUND COMMUNICATIONS
- GR — GUARDRAIL
- EROSION CONTROL WATTLES
- TJB — TELEPHONE JUNCTION BOX
- FHWA — FEDERAL HIGHWAY ADMINISTRATION
- (MW) — EXISTING MONITORING WELL LOCATION (ID AS NOTED)
- FND 2" ALUM. CAP STAMPED "PLS 10162" OR AS NOTED
- or — MISCELLANEOUS STRUCTURE (SEE CHART BELOW)
- DENOTES ASPHALT SURFACE
- DENOTES CONCRETE SURFACE
- DENOTES GRAVEL SURFACE
- OTHERS AS NOTED

SURVEYS OF RECORD

(R-1) J. DUNN PLS 10162 MARCH 2009 INSTRUMENT NO. 444420

(R-2) J. DUNN PLS 10162 SUMMER 2012 UNRECORDED (AMENDS ABOVE)

(R-3) J. DUNN PLS 10162 FEB 2007 UNRECORDED SURVEY FOR POTLATCH FOREST HOLDINGS, INC

(R-4) RIGHT-OF-WAY PLANS, ST. JOE RIVER ROAD, IDAHO FOREST HIGHWAY PROJECT 50-1(6)

(R-5) RAILROAD PLANS AND RIGHT-OF-WAY

MISC. STRUCTURE AND ITEMS

(60) 4" PVC PIPE (ON THE WESTERLY SIDE OF THE 36" CMP), POSSIBLE TELEPHONE SLEEVE

35' 0 35' 70'

1" = 35'

CONTOUR INTERVAL = 1 FOOT

SURVEYOR'S NOTES

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ELEVATION DATUM

NAVD 88 ~ BASED ON THE PUBLISHED ELEVATION OF NATIONAL GEODETIC SURVEY MONUMENT DESIGNATION "W-154" AND PID "SU0449". ELEVATION: 2489.77 FT.

SITE BENCHMARK: TOP BOLT ON BACKSIDE OF GUARD RAIL POST. ELEVATION: 2485.76'

CALL BEFORE YOU DIG

SCOTT M. RASOR, PLS 6374 — DATE 11/28/12

PROFESSIONAL LAND SURVEYOR REGISTERED 6374 STATE OF IDAHO SCOTT M. RASOR

SHEET 5 OF 5

SCALE: 1" = 35' DATE: NOV 28, 2012 SHEET 5 OF 5	CREW: MW,TB,DG DRAWN BY: MDW APPROVED BY:	PROJECT #: EQM12.014 DWG: 12.014 REF: EQM	MECKEL ENGINEERING & SURVEYING 7600 N. GOVERNMENT WAY, COEUR d'ALENE, IDAHO, 83815 (208)667-4638	AVERY LANDING TOPO A PORTION OF SECTIONS 15 AND 16, T.45N., R.5E., B.M., VILLAGE OF AVERY, SHOSHONE COUNTY, IDAHO

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D Highway Reconstruction Cross Sections

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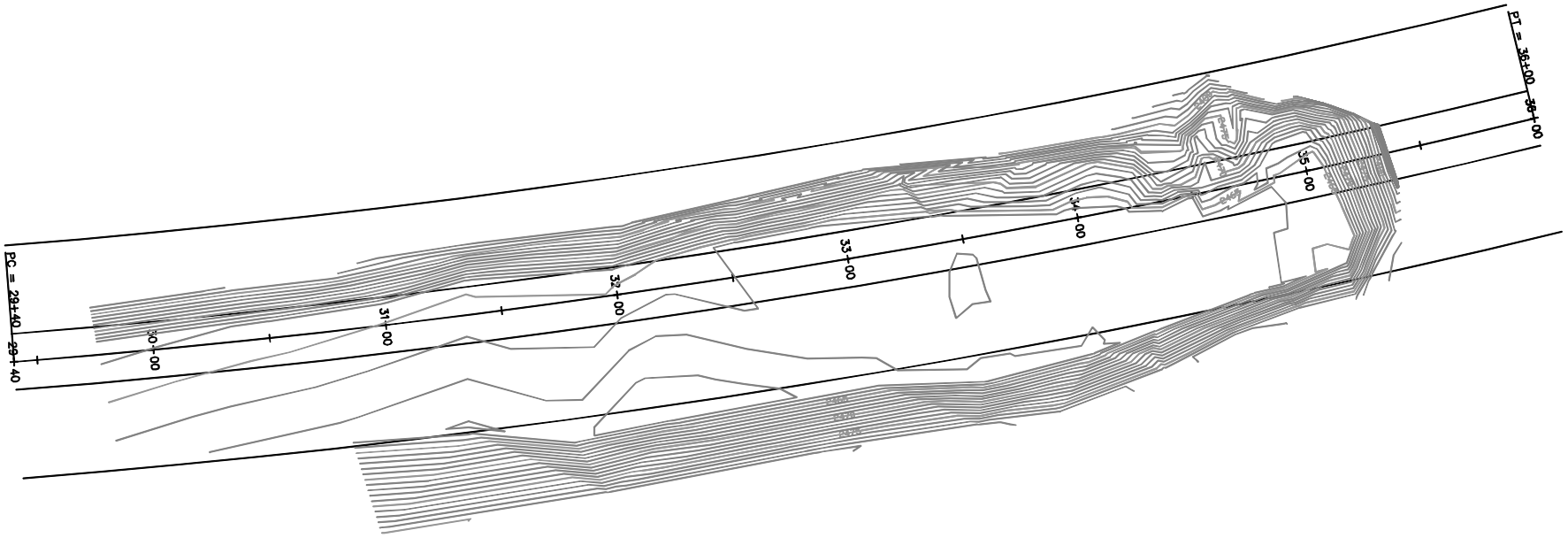
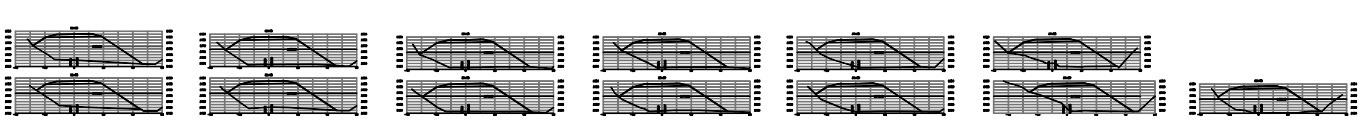
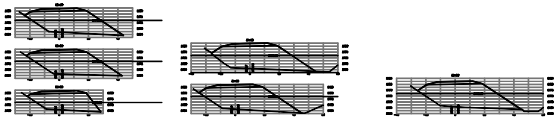
Avery Landing Site
Highway 50 Reconstruction
Plan View and Cross Sections







07/11/12 ESTIMATED IN PLACE NEAT LINE QUANTITIES
BASED ON AS-BUILT EXCAVATION:
32+00 TO EAST END OF PROJECT
SELECT BORROW - 6183 CY
UNCLASSIFIED BORROW - 3940 CY

JULY 11, 2012
EASTERN CROSS SECTIONS
SHEETS 4 - 10

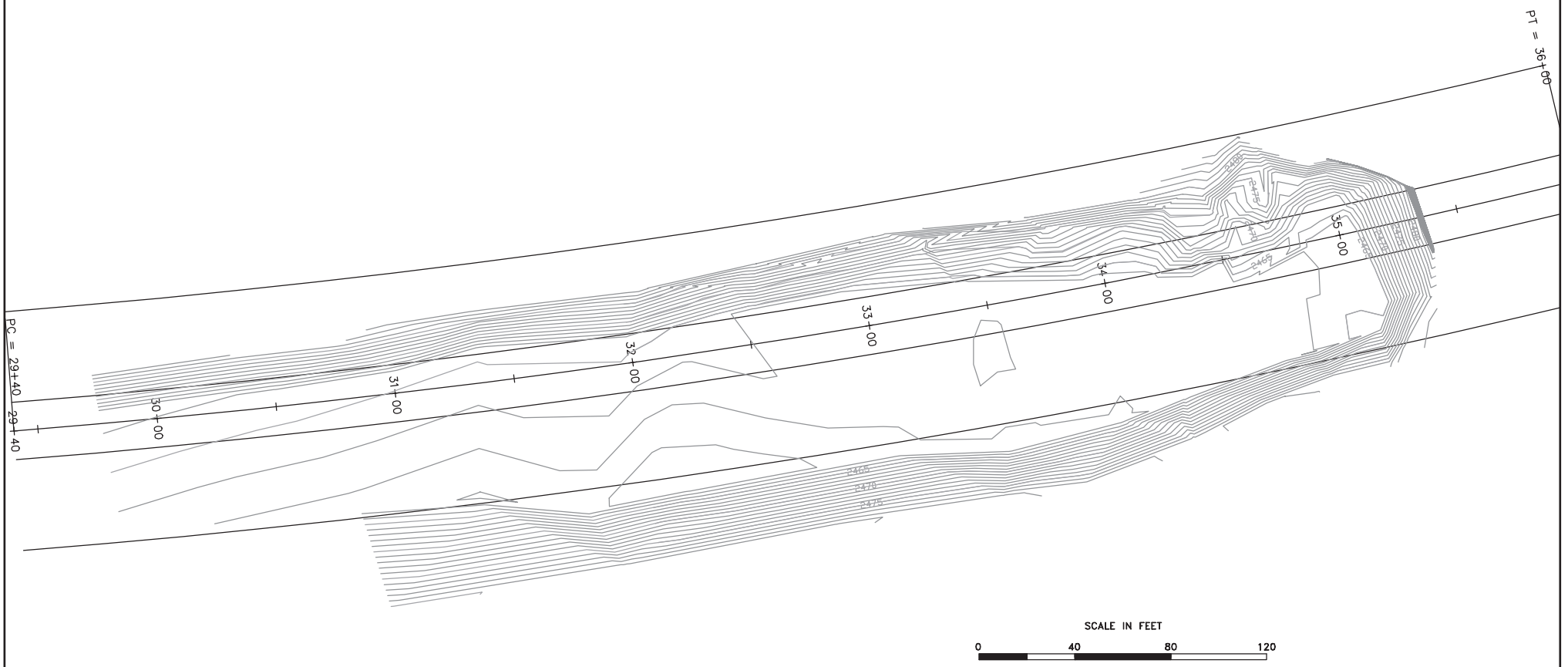
Total Backfill Quantities

Select Borrow Material: 18,538 tons / 9,981 cubic yards
Unclassified Borrow Material: 11,846 tons / 6,452 cubic yards

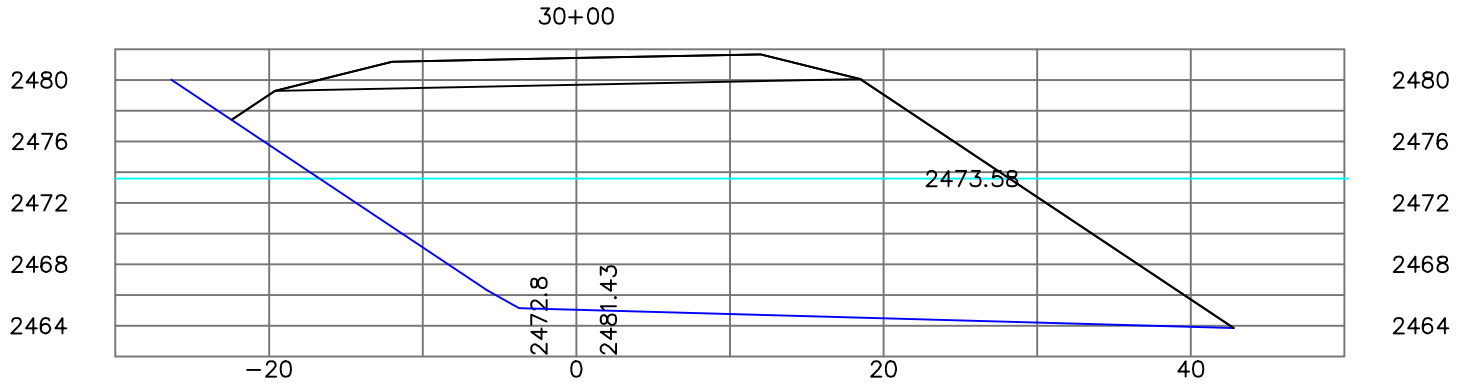
07/24/12 ADDITIONAL ESTIMATED IN PLACE NEAT LINE QUANTITIES:
BASED ON AS-BUILT EXCAVATION
29+40 TO 32+00
SELECT BORROW - 3798 CY
UNCLASSIFIED BORROW - 2512 CY

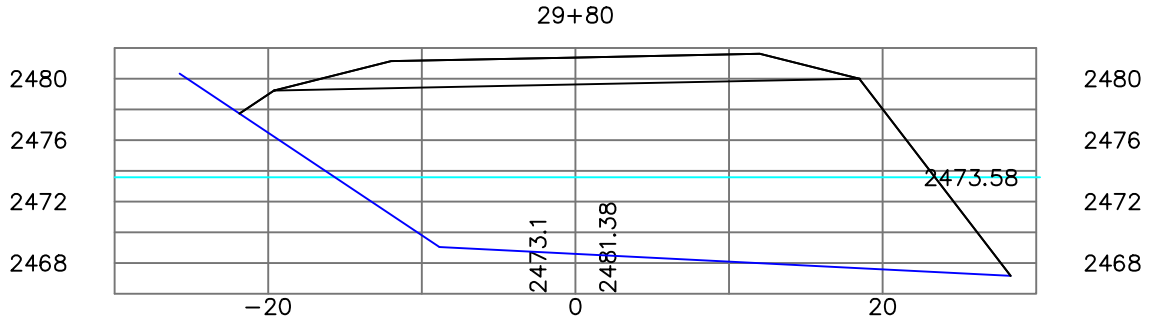
JULY 24, 2012
WESTERN CROSS SECTIONS
SHEETS 1 - 3

Avery Landing Site
Highway 50 Reconstruction
Plan View
1 of 1



Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 1





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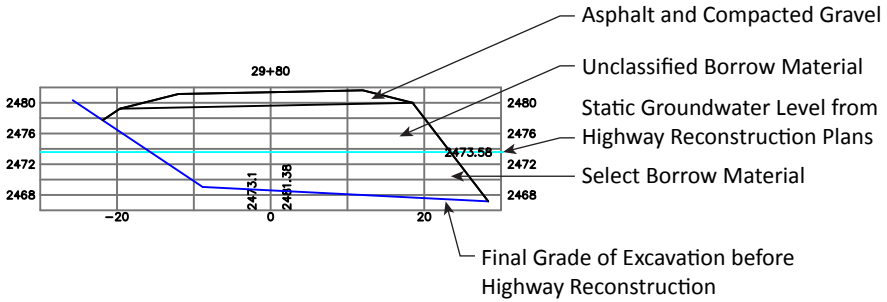
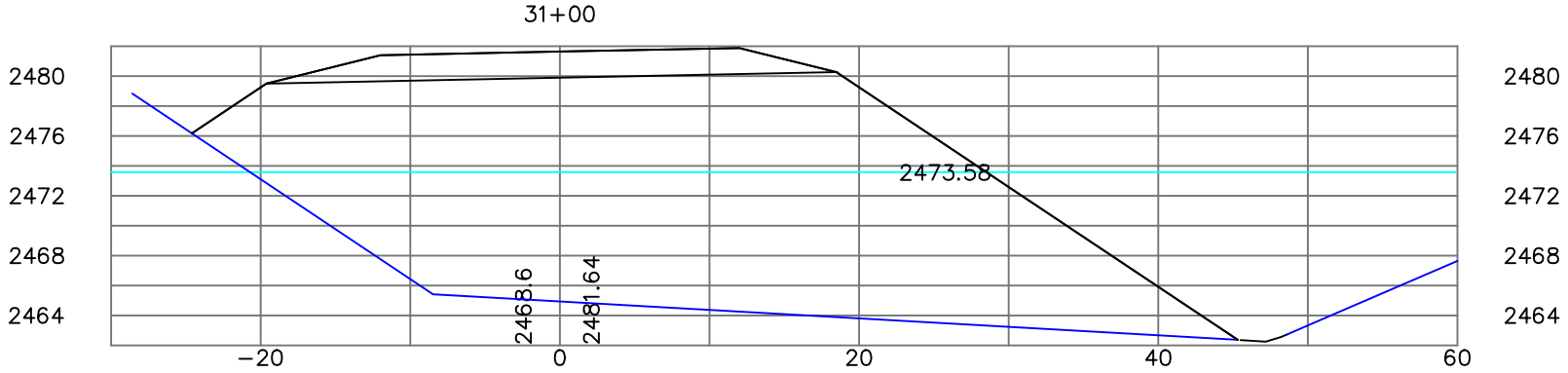
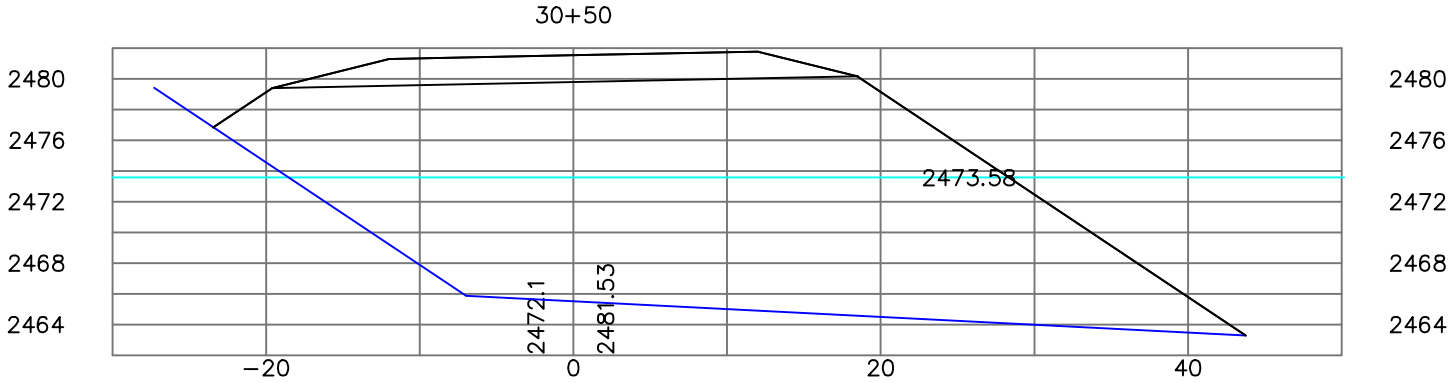


Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 2





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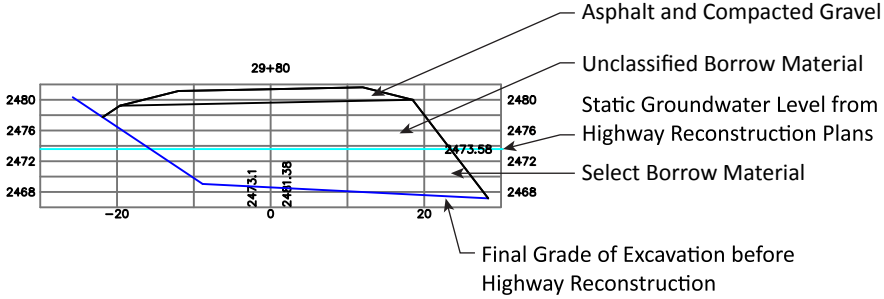
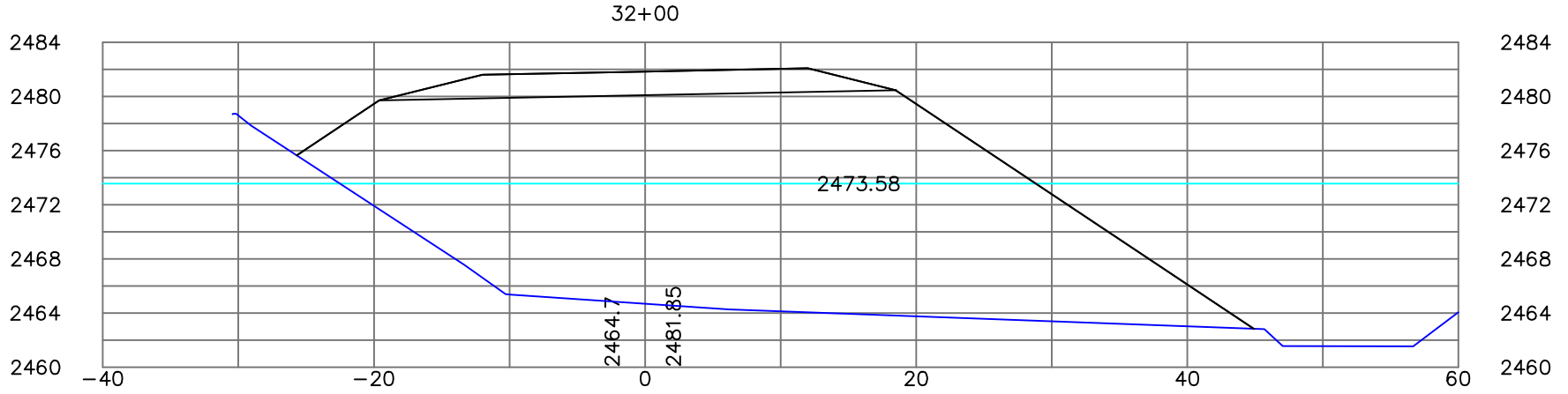
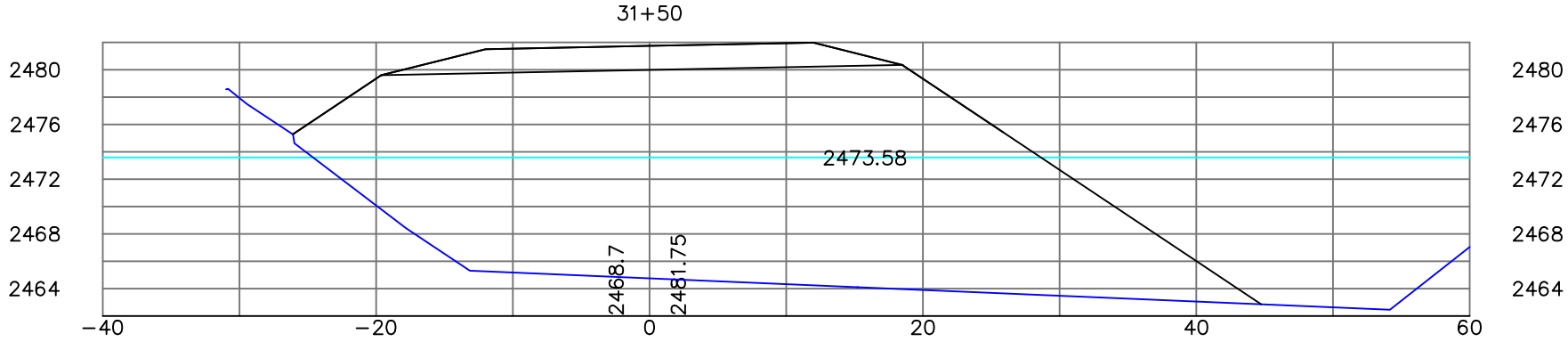


Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 3





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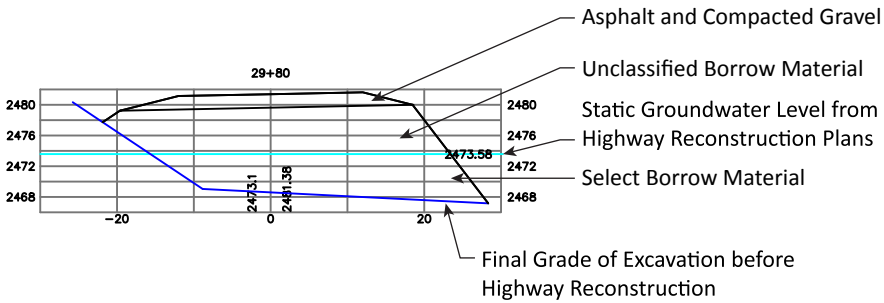
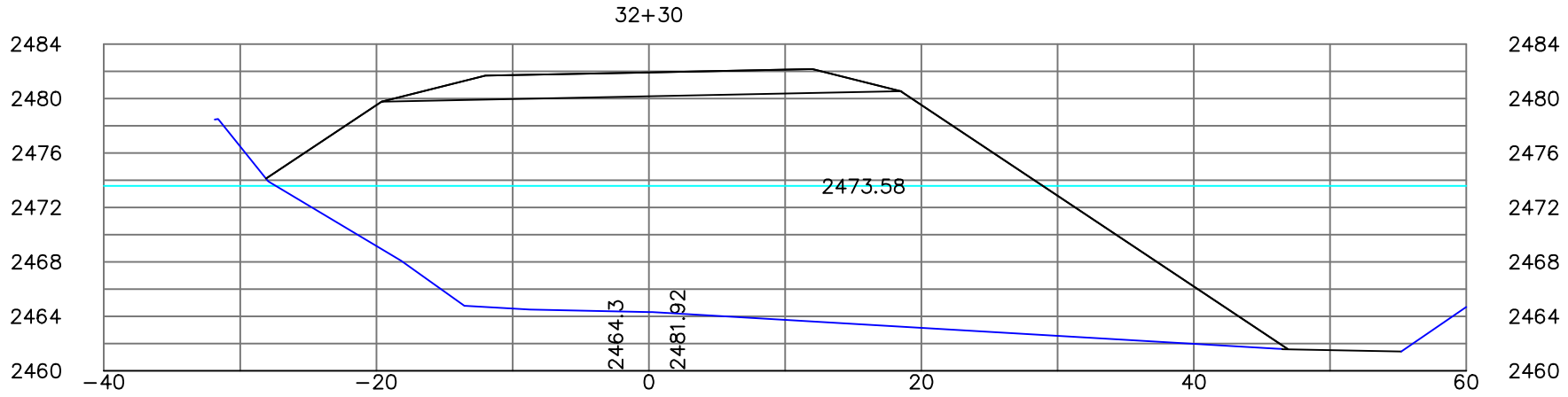
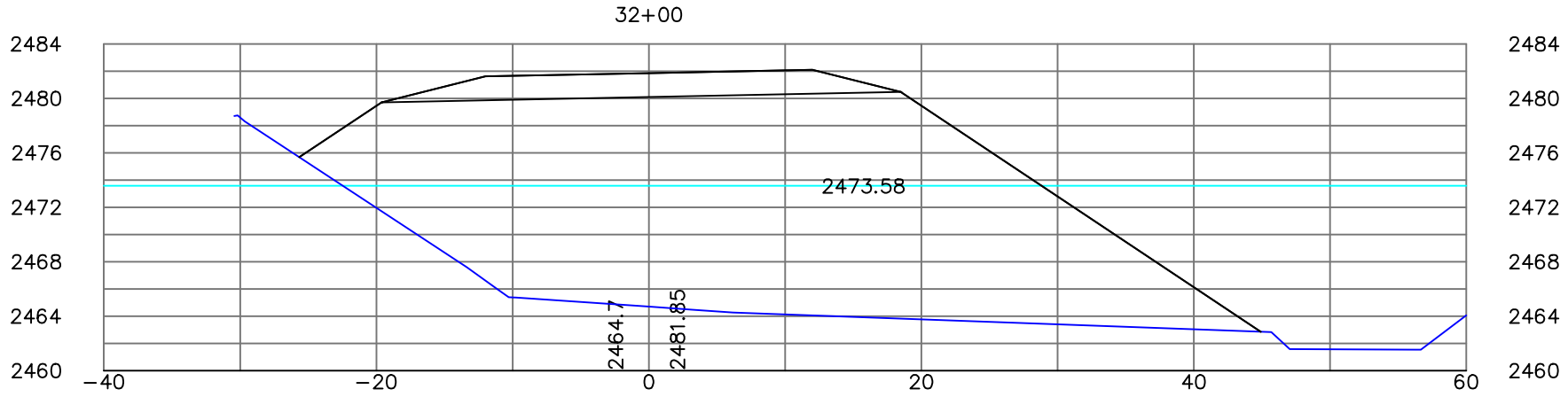


Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 4





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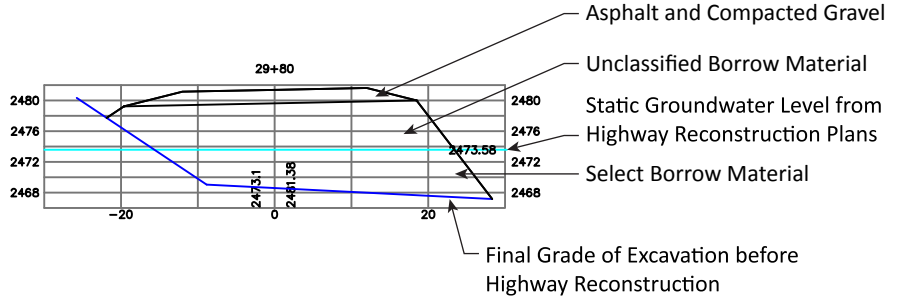
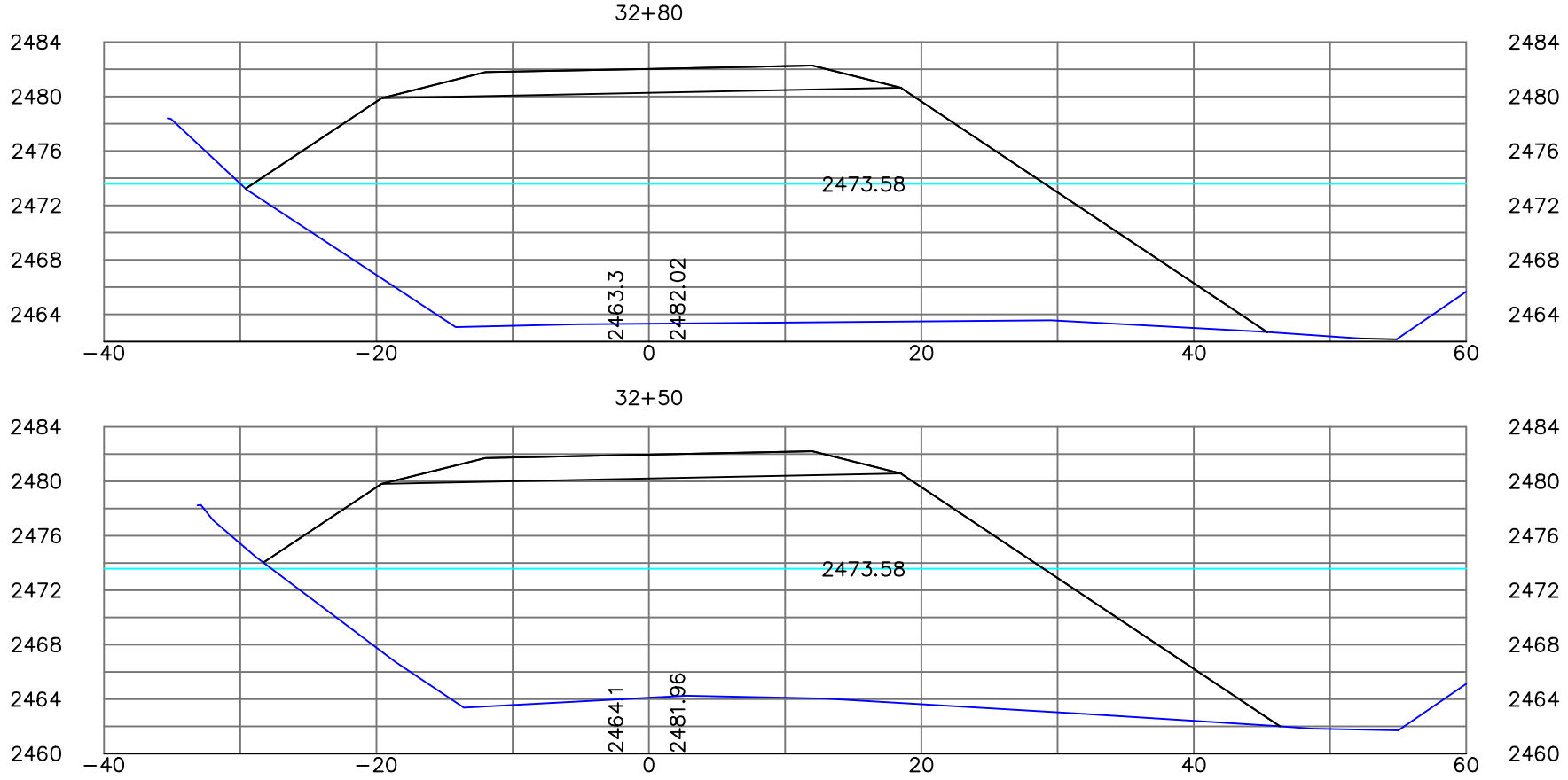


Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 5



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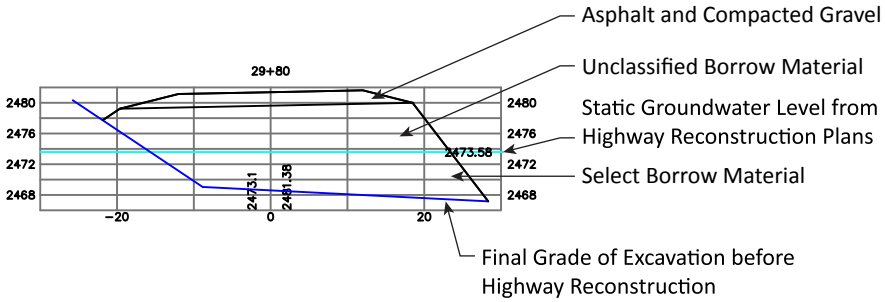
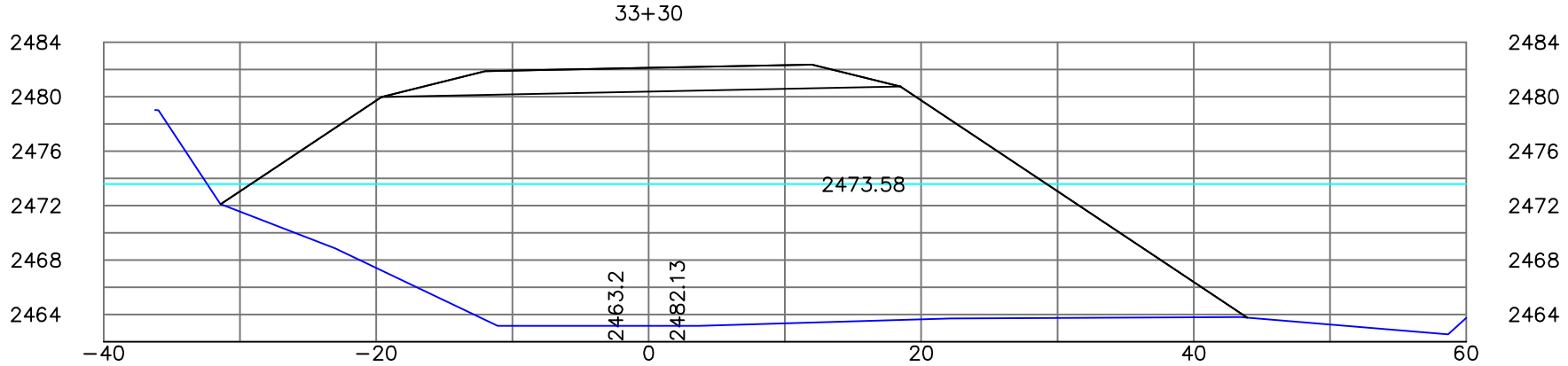
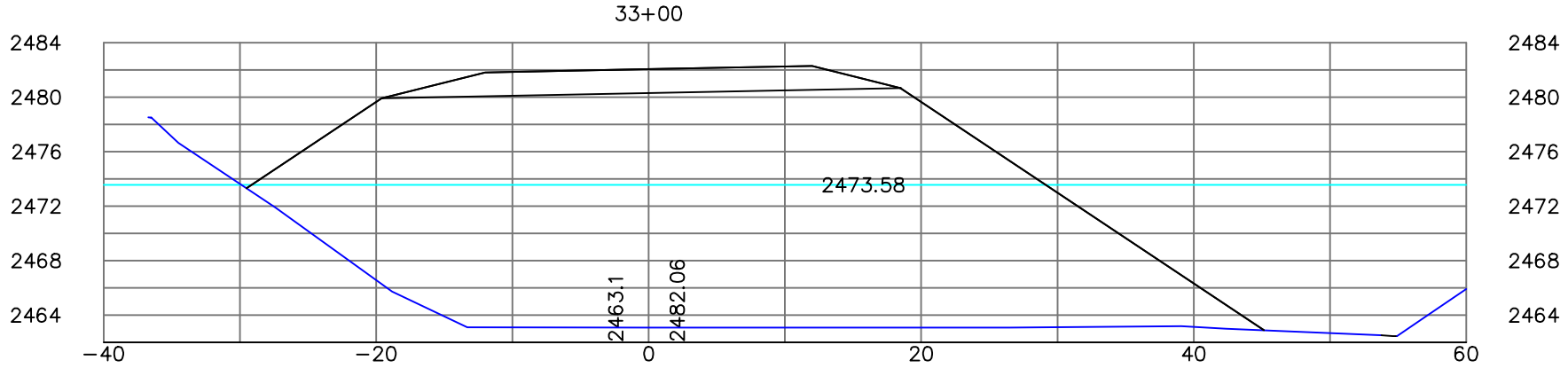


Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 6





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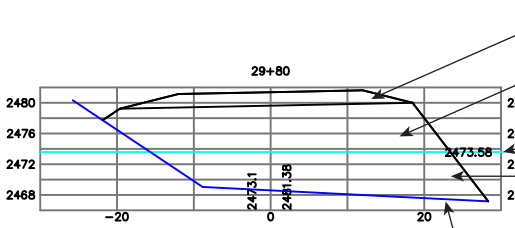


Asphalt and Compacted Gravel

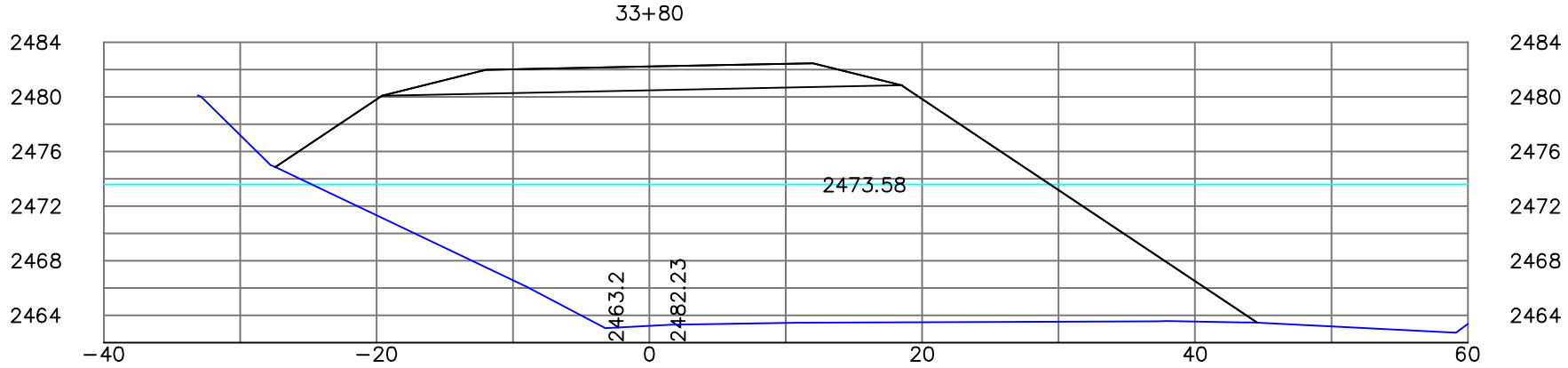
Unclassified Borrow Material

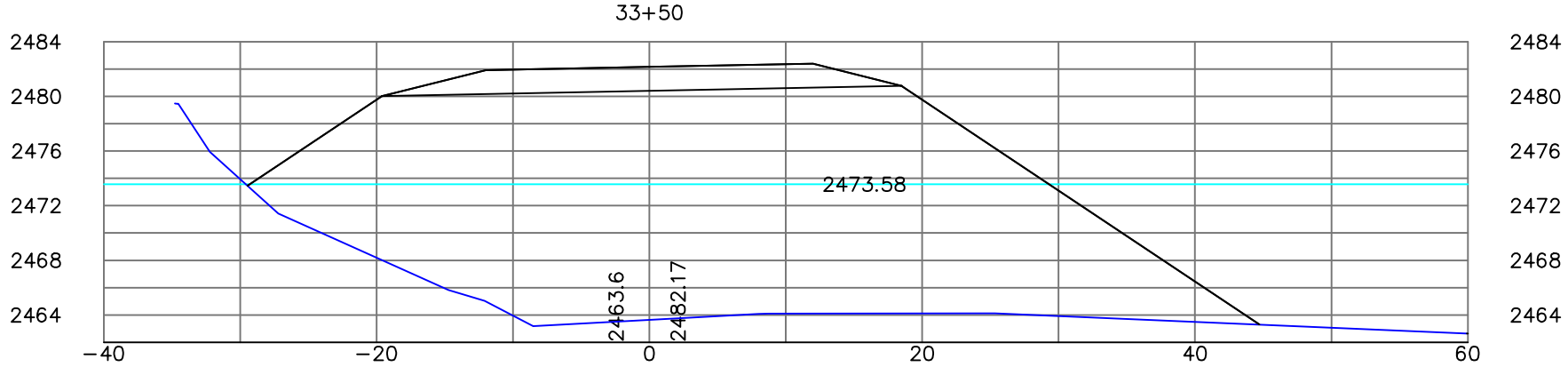
Static Groundwater Level from Highway Reconstruction Plans

Select Borrow Material

Final Grade of Excavation before Highway Reconstruction

Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 7





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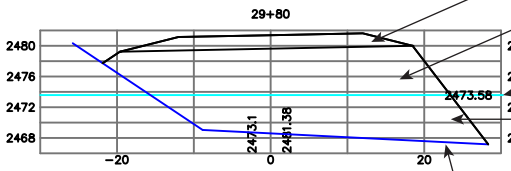


Asphalt and Compacted Gravel

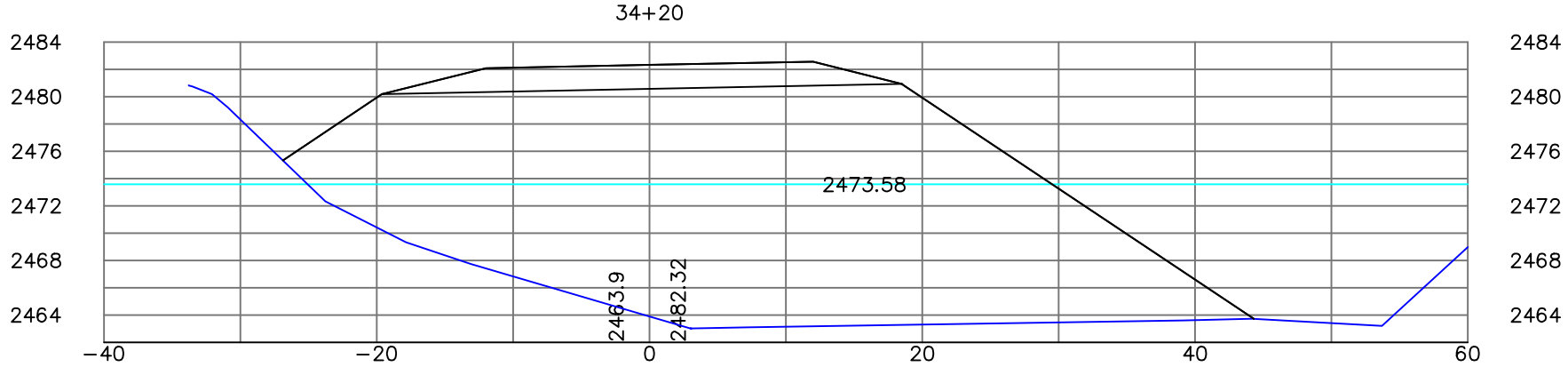
Unclassified Borrow Material

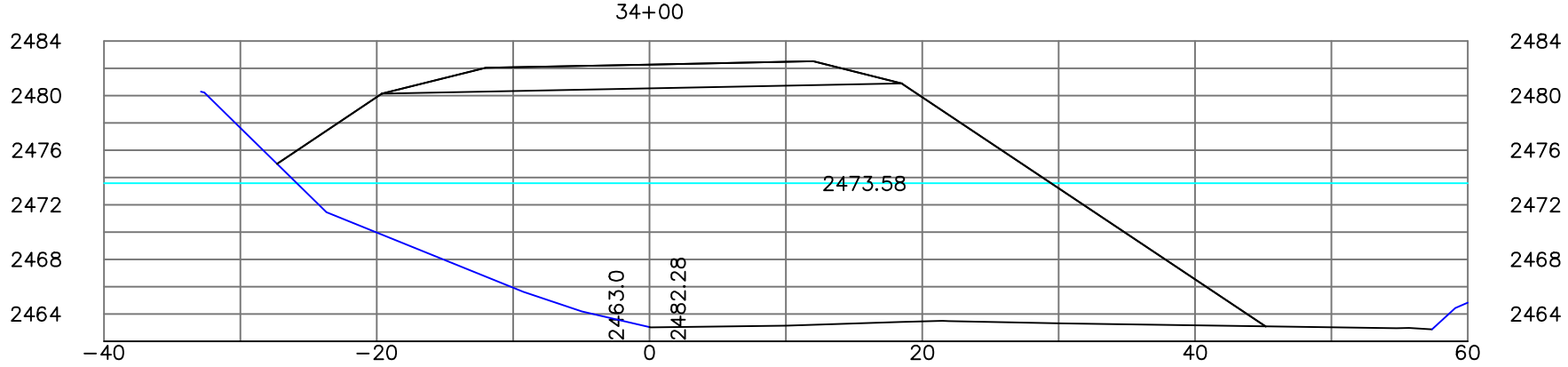
Static Groundwater Level from Highway Reconstruction Plans

Select Borrow Material

Final Grade of Excavation before Highway Reconstruction

Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 8





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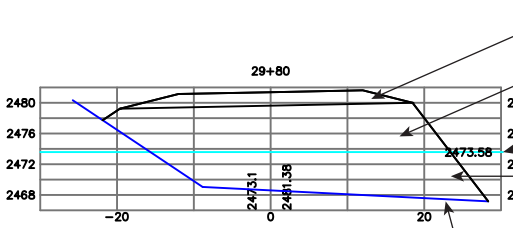


Asphalt and Compacted Gravel

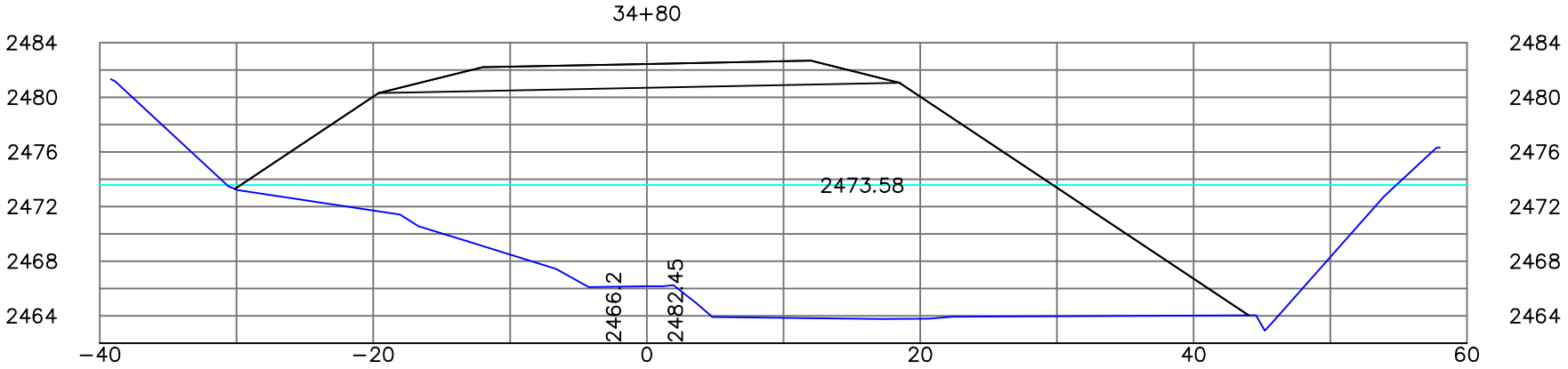
Unclassified Borrow Material

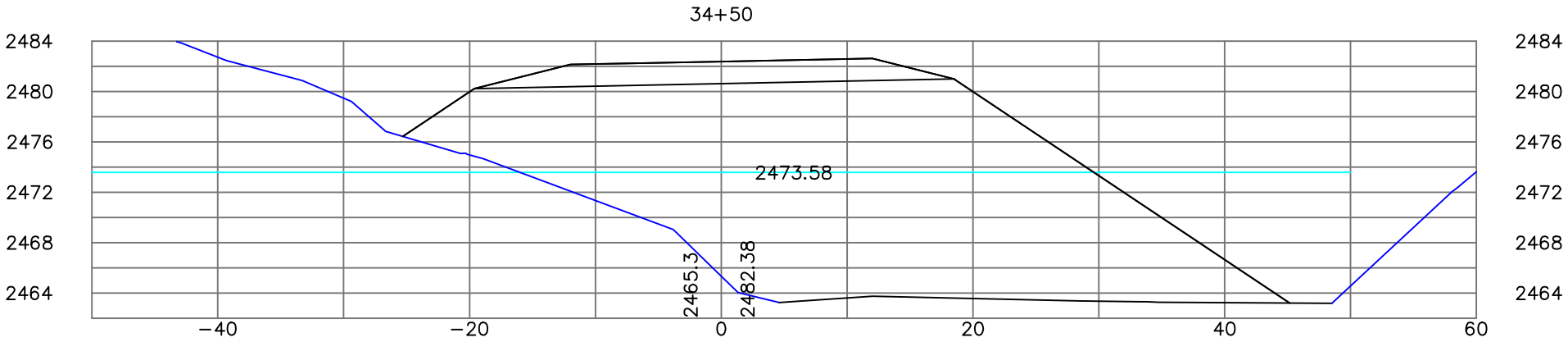
Static Groundwater Level from Highway Reconstruction Plans

Select Borrow Material

Final Grade of Excavation before Highway Reconstruction

Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 9





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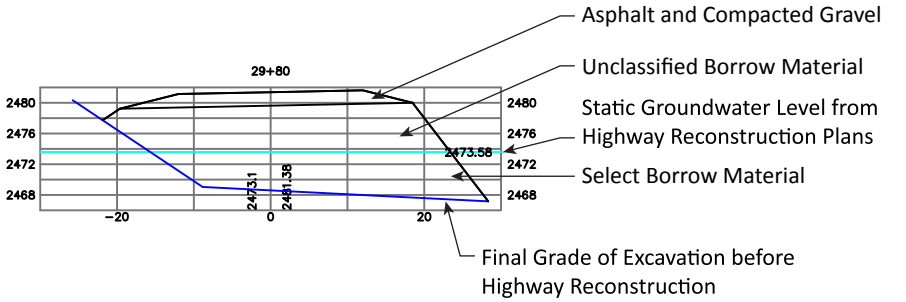
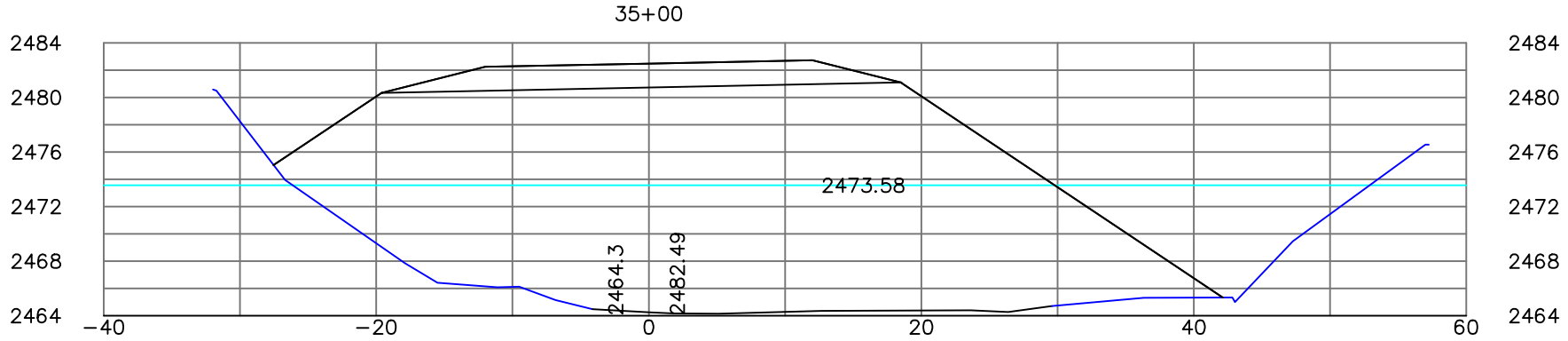


Avery Landing Site
Highway 50 Reconstruction
Cross Section
Sheet 10



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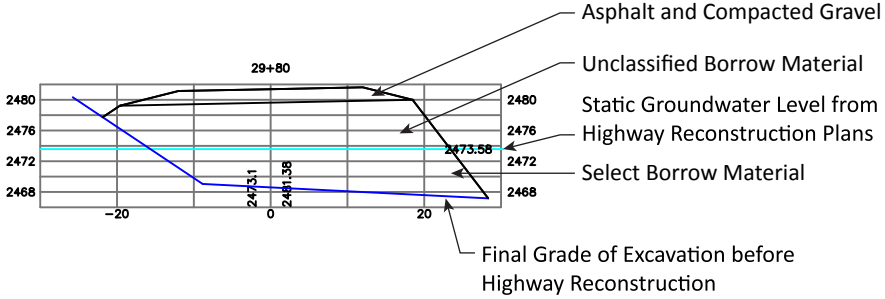

E Complete Analytical Data Summary Tables

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Avery Landing Site Baseline Sample Results												
Sample Number	**12060001 & 7**	**12060002 & 8**	**12060003 & 9**	**12060004 & 10**	**12060005 & 11**	**12060006 & 12**	**12060013**	**12060014**	**12060015**	**12060016**	**12060017**	**12060018**
Location	**Surface Soil Baseline Samples**						**Overburden Stockpile**		**Borrow Material**		**Stockpile**	**Borrow Material**
	BL01 & BL01V Containment Cell 1 Area	**BL02 & BL02V Containment Cell 2 Area**	**BL03 & BL03V Containment Cell 3 Area**	**BL04 & BL04V Overburden Stockpile Area**	**BL05& BL05V Command Post Area**	**BL06 & BL06V East Bentcik**	**BL07SS**	**BL08SS**	**BL09**	**BL09D**	**BL10**	**BL11**
Collection Date	**6/4/2012**	**6/4/2012**	**6/4/2012**	**6/4/2012**	**6/4/2012**	**6/4/2012**	**6/25/2012**	**6/25/2012**	**6/29/2012**	**6/29/2012**	**8/8/2012**	**9/26/2012**
Polychlorinated Biphenyls (µg/kg)												
Aroclor-1016	3.63 U	3.73 U	3.73 U	3.87 U	4.03 U	21.8 U	17.8 U	18.2 U	18.8 U	18.7 U	17.9 U	3.31 U
Aroclor-1221	3.63 U	3.73 U	3.73 U	3.87 U	4.03 U	21.8 U	17.8 U	18.2 U	18.8 U	18.7 U	17.9 U	3.31 U
Aroclor-1232	3.63 U	3.73 U	3.73 U	3.87 U	4.03 U	21.8 U	17.8 U	18.2 U	18.8 U	18.7 U	17.9 U	3.31 U
Aroclor-1242	3.63 U	3.73 U	3.73 U	3.87 U	4.03 U	21.8 U	17.8 U	18.2 U	18.8 U	18.7 U	17.9 U	3.31 U
Aroclor-1248	3.63 U	3.73 U	3.73 U	3.87 U	4.03 U	21.8 U	17.8 U	18.2 U	18.8 U	18.7 U	17.9 U	3.31 U
Aroclor-1254	3.63 U	3.73 U	3.73 U	3.87 U	4.03 U	21.8 U	17.8 U	18.2 U	18.8 U	18.7 U	17.9 UJK	3.31 U
Aroclor-1260	3.63 U	3.73 U	3.73 U	**4.37**	**6.55**	**38.3**	**22 JK**	**142**	18.8 U	18.7 U	**29.6**	3.31 U
PCB Total	3.63 U	3.73 U	3.73 U	**4.37**	**6.55**	**38.3**	**22 JK**	**142**	18.8 U	18.7 U	**38.1**	3.31 U
Semivolatile Organic Compounds (µg/kg)												
1,1'-Biphenyl	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
1,2,4,5-Tetrachlorobenzene	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
1-Methylnaphthalene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
2,3,4,6-Tetrachlorophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2,4,5-Trichlorophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2,4,6-Trichlorophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2,4-Dichlorophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2,4-Dimethylphenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2,4-Dinitrophenol	729 U	747 U	749 U	7740 U	809 U	879 U	7160 U	7360 U	754 U	748 U	7170 U	675 UJK
2,4-Dinitrotoluene	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2,6-Dinitrotoluene	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2-Chloronaphthalene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
2-Chlorophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2-Methyl-4,6-dinitrophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 UJL	3680 UJL	377 U	374 U	3590 U	338 U
2-Methylnaphthalene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
2-Methylphenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
2-Nitrophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
3,3'-Dichlorobenzidine	365 U	374 U	374 U	3870 U	405 U	439 U	3580 UJL	3680 UJL	377 U	374 U	3590 UJL	338 U
4-Bromophenylphenylether	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
4-Chloro-3-methylphenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
4-Chloroaniline	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
4-Chlorophenylphenylether	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
4-Nitrophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Acenaphthene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
Acenaphthylene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
Acetophenone	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Anthracene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
Atrazine	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Benzaldehyde	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Benzo(a)anthracene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	62.8 U
Benzo(a)pyrene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	49.3 U
Benzo(b)fluoranthene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	60.5 U
Benzo(ghi)perylene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 UJL	368 UJL	37.7 U	37.4 U	359 U	33.8 U
Benzo(k)fluoranthene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
bis(2-Chloroethoxy)methane	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
bis(2-Chloroethyl) ether	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
bis(2-Chloroisopropyl)ether	365 U	374 UJL	374 UJL	3870 U	405 UJL	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 UJL
bis(2-Ethylhexyl)phthalate	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Butylbenzylphthalate	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Caprolactam	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Carbazole	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 UJL
Chrysene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	62.1 U
Dibenzo(a,h)anthracene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 UJL	368 UJL	37.7 U	37.4 U	359 U	33.8 UJL
Dibenzofuran	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Diethylphthalate	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Dimethylphthalate	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U

Avery Landing Site
Baseline Sample Results

Sample Number	12060001 & 7	12060002 & 8	12060003 & 9	12060004 & 10	12060005 & 11	12060006 & 12	12060013	12060014	12060015	12060016	12060017	12060018
	Surface Soil Baseline Samples						Overburden Stockpile		Borrow Material		Stockpile	Borrow Material
Location	BL01 & BL01V Containment Cell 1 Area	BL02 & BL02V Containment Cell 2 Area	BL03 & BL03V Containment Cell 3 Area	BL04 & BL04V Overburden Stockpile Area	BL05& BL05V Command Post Area	BL06 & BL06V East Bentcik	BL07SS	BL08SS	BL09	BL09D	BL10	BL11
Collection Date	6/4/2012	6/4/2012	6/4/2012	6/4/2012	6/4/2012	6/4/2012	6/25/2012	6/25/2012	6/29/2012	6/29/2012	8/8/2012	9/26/2012
Di-n-butylphthalate	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Di-n-octylphthalate	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Diphenylamine	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Fluoranthene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	72.3 U
Fluorene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
Hexachlorobenzene	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Hexachlorobutadiene	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Hexachlorocyclopentadiene	365 UJL	374 U	374 UJL	3870 UJL	405 UJL	439 UJL	3580 UJL	3680 UJL	377 UJL	374 UJL	3590 U	338 U
Hexachloroethane	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Indeno(1,2,3-cd)pyrene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 UJL	368 UJL	37.7 U	37.4 U	359 U	33.8 UJL
Isophorone	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
m,p-Cresols	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
m-Nitroaniline	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 UJL
Naphthalene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	33.8 U
Nitrobenzene	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
N-Nitrosodipropylamine	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
o-Nitroaniline	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
Pentachlorophenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 UJL	374 UJL	3590 U	338 U
Phenanthrene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	52.4 U
Phenol	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 U	374 U	3590 U	338 U
p-Nitroaniline	365 U	374 U	374 U	3870 U	405 U	439 U	3580 U	3680 U	377 UJL	374 UJL	3590 U	338 UJL
Pyrene	36.5 U	37.4 U	37.4 U	387 U	40.5 U	43.9 U	358 U	368 U	37.7 U	37.4 U	359 U	186 U
Volatile Organic Compounds (µg/kg)												
1,1,1-Trichloroethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
1,1,2,2-Tetrachloroethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 UJL	97 U	1.11 U	0.954 UJL	0.945 U	0.978 U
1,1,2-Trichloroethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
1,1-Dichloroethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
1,1-Dichloroethene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
1,2-Dichloroethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
1,2-Dichloroethylene (total)	1.61 U	1.63 U	1.81 U	1.72 U	2.21 U	2.49 U	1.86 U	194 U	2.22 U	1.91 U	1.89 U	1.96 U
1,2-Dichloropropane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
2-Butanone (MEK)	R	R	R	**2.34 JQ**	**3.21 JQ**	R	4.64 U	485 U	5.55 U	4.77 U	4.72 U	4.89 U
2-Hexanone	4.02 U	4.08 U	4.53 U	4.29 U	5.53 U	6.22 U	4.64 U	485 U	5.55 U	4.77 U	4.72 U	4.89 U
4-Methyl-2-pentanone (MIBK)	4.02 U	4.08 U	4.53 U	4.29 U	5.53 U	6.22 U	4.64 U	485 U	5.55 U	4.77 U	4.72 U	4.89 U
Acetone	4.02 U	4.08 U	4.53 U	**8.08 JH**	**14 JH**	6.22 U	4.64 U	485 U	5.55 U	4.77 U	4.72 U	4.89 U
Benzene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Bromodichloromethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Bromoform	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 UJL	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Bromomethane (Methyl bromide)	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Carbon disulfide	4.02 U	4.08 U	4.53 U	4.29 U	5.53 U	6.22 U	4.64 U	485 U	5.55 U	4.77 U	4.72 U	4.89 U
Carbon tetrachloride	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Chlorobenzene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Chloroethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Chloroform	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Chloromethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
cis-1,2-Dichloroethene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
cis-1,3-Dichloropropene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Dibromochloromethane	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Ethylbenzene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
m,p-Xylene	1.61 U	1.63 U	1.81 U	1.72 U	2.21 U	2.49 U	1.86 U	194 U	2.22 U	1.91 U	1.89 U	1.96 U
Methyl tert-butyl Ether (MTBE)	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Methylene chloride	4.02 U	4.08 U	4.53 U	4.29 U	5.53 U	6.22 U	4.64 U	485 U	5.55 U	4.77 U	4.72 U	**5.21**
o-Xylene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Styrene	0.805 U	0.815 U	0.906 U	**0.326 JQ**	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Tetrachloroethene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Toluene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U

Avery Landing Site
Baseline Sample Results

Sample Number	12060001 & 7	12060002 & 8	12060003 & 9	12060004 & 10	12060005 & 11	12060006 & 12	12060013	12060014	12060015	12060016	12060017	12060018
Location	Surface Soil Baseline Samples						Overburden Stockpile		Borrow Material		Stockpile	Borrow Material
	BL01 & BL01V Containment Cell 1 Area	BL02 & BL02V Containment Cell 2 Area	BL03 & BL03V Containment Cell 3 Area	BL04 & BL04V Overburden Stockpile Area	BL05& BL05V Command Post Area	BL06 & BL06V East Bentcik	BL07SS	BL08SS	BL09	BL09D	BL10	BL11
Collection Date	6/4/2012	6/4/2012	6/4/2012	6/4/2012	6/4/2012	6/4/2012	6/25/2012	6/25/2012	6/29/2012	6/29/2012	8/8/2012	9/26/2012
trans-1,2-Dichloroethene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
trans-1,3-Dichloropropene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Trichloroethene	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Vinyl acetate	4.02 U	4.08 U	4.53 U	4.29 U	5.53 U	6.22 U	4.64 U	485 U	5.55 U	4.77 U	4.72 U	4.89 U
Vinyl chloride	0.805 U	0.815 U	0.906 U	0.858 U	1.11 U	1.24 U	0.929 U	97 U	1.11 U	0.954 U	0.945 U	0.978 U
Xylenes (total)	2.41 U	2.45 U	2.72 U	2.57 U	3.32 U	3.73 U	2.79 U	291 U	3.33 U	2.86 U	2.83 U	2.93 U
NWTPH Dx (mg/kg)												
#2 Diesel (C10-C24)	**6 JQ**	26 U	**7.9 JQ**	**7.3 JQ**	**11 JQ**	**160 JH**	**720 JK**	**320 JH**	**8.1 JQ**	**9.1 JQ**	**220 JK**	24 U
Motor Oil (>C24-C36)	51 U	51 U	53 U	56 U	60 U	**1000**	**1400 JK**	**2000**	**43 JQ**	**39 JQ**	**670 JK**	48 U

Note: Results in **BOLD** indicated a positive detection.

Key:

µg/kg = micrograms per kilogram
JH = positive detection, but approximate concentration with high bias
JK = estimated result with unknown bias
JQ = positive detection, result is between method detection limit and reporting limit
mg/kg = milligrams per kilogram
NWTPH Dx = Extended Diesel Range Total Petroleum Hydrocarbons
R = Results rejected due to deficiencies in ability to analyze sample and meet quality control criteria. Result cannot be verified.
U = not detected at indicated reporting limit
UJK = not detected at indicated reporting limit; reporting limit is estimated with unknown bias
UJL = not detected at indicated reporting limit; reporting limit is estimated with low bias

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Avery Landing Site
Contaminated Stockpiles Sample Results

Sample Number	12060101	12060102	12060103	12060104	12060105	12060106	12060107	12060108	12060109	12060110	12060111	12060112	12060113	12060114	12060115	12060116	12060117	12060118	12060119	12060120	12060121	12060122
Location	SP01SSC1A	SP02SSC1B	SP03SSC1C	SP04SSC1D	SP05SSC1E	SP06SSC1F	SP07SSC1G	SP08SSC1H	SP09SSC1I	SP10SSC1J	SP11SSC2	SP12SSC3	SP13SSM	SP14SSC1	SP15SSC1	SP15SSC9	SP16SSC3	SP17SSC1	SP18SSC2	SP19SSC3	SP20SSB1	SP21SSC3
Collection Date	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/25/2012	7/5/2012	7/17/2012	7/30/2012	8/15/2012	8/15/2012	8/18/2012	8/27/2012	8/27/2012	8/27/2012	9/10/2012	9/10/2012
PCB Data (µg/kg)																						
Aroclor-1016	22.3 U	20.2 U	20.4 U	21.5 U	20.3 U	23.9 U	22.2 U	22.5 U	21.1 U	20.6 U	21.3 U	39.5 U	20.4 U	79.2 U	37.9 U	38.3 U	48.6 U	78.2 U	75.8 U	76.2 U	88.3 U	77.6 U
Aroclor-1221	22.3 U	20.2 U	20.4 U	21.5 U	20.3 U	23.9 U	22.2 U	22.5 U	21.1 U	20.6 U	21.3 U	39.5 U	20.4 U	79.2 U	37.9 U	38.3 U	48.6 U	78.2 U	75.8 U	76.2 U	88.3 U	77.6 U
Aroclor-1232	22.3 U	20.2 U	20.4 U	21.5 U	20.3 U	23.9 U	22.2 U	22.5 U	21.1 U	20.6 U	21.3 U	39.5 U	20.4 U	79.2 U	37.9 U	38.3 U	48.6 U	78.2 U	75.8 U	76.2 U	88.3 U	77.6 U
Aroclor-1242	22.3 U	20.2 U	20.4 U	21.5 U	20.3 U	23.9 U	22.2 U	22.5 U	21.1 U	20.6 U	21.3 U	39.5 U	20.4 U	79.2 U	37.9 U	38.3 U	48.6 U	78.2 U	75.8 U	76.2 U	88.3 U	77.6 U
Aroclor-1248	22.3 U	20.2 U	20.4 U	21.5 U	20.3 U	23.9 U	22.2 U	22.5 U	21.1 U	20.6 U	21.3 U	39.5 U	20.4 U	79.2 U	37.9 U	38.3 U	48.6 U	78.2 U	75.8 U	76.2 U	88.3 U	77.6 U
Aroclor-1254	22.3 U	20.2 U	20.4 U	21.5 U	20.3 U	23.9 U	22.2 U	22.5 U	21.1 U	20.6 U	21.3 U	39.5 U	**45.4**	79.2 U	37.9 U	38.3 U	48.6 U	78.2 U	75.8 U	76.2 U	88.3 U	**81**
Aroclor-1260	22.3 U	20.2 U	20.4 U	21.5 U	20.3 U	23.9 U	22.2 UJL	22.5 UJL	21.1 UJL	20.6 UJL	21.3 U	39.5 U	**62.8**	79.2 U	37.9 U	38.3 U	48.6 UJL	78.2 UJL	75.8 UJL	76.2 UJL	88.3 UJL	**109 JL**
PCB Total	22.3 U	20.2 U	20.4 U	21.5 U	20.3 U	23.9 U	22.2 UJL	22.5 UJL	21.1 UJL	20.6 UJL	21.3 U	39.5 U	**108**	79.2 U	37.9 U	38.3 U	48.6 U	78.2 U	75.8 U	76.2 U	88.3 U	**190 JL**
SVOC Data (µg/kg)																						
1,1'-Biphenyl	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
1,2,4,5-Tetrachlorobenzene	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
1-Methylnaphthalene	44.7 U	**108**	**958**	**944**	**324**	47.7 U	**190**	**297**	**331**	**496**	**10100**	39.5 U	**2580**	**6750**	**17300**	**13200**	**11300**	**2500**	**1510**	946 U	**19900**	3880 U
2,3,4,6-Tetrachlorophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2,4,5-Trichlorophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2,4,6-Trichlorophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2,4-Dichlorophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2,4-Dimethylphenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2,4-Dinitrophenol	894 U	810 U	814 U	848 U	818 U	955 U	882 U	898 U	848 U	824 U	8510 U	790 U	4070 U	7960 U	75600 U	76300 U	75500 U	19400 U	19000 U	18900 U	88300 UJL	77600 UJL
2,4-Dinitrotoluene	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2,6-Dinitrotoluene	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2-Chloronaphthalene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	42.4 U	41.2 U	426 U	39.5 U	204 U	398 U	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
2-Chlorophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2-Methyl-4,6-dinitrophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 UJL	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 UJL	38800 UJL
2-Methylnaphthalene	44.7 U	**56.7**	**377**	**341**	**143**	47.7 U	**73.2**	**115**	**126**	**176**	**12600**	39.5 U	**2080**	**3430**	**11100**	3810 U	**11600**	**1010**	**1500**	946 U	**17000**	3880 U
2-Methylphenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
2-Nitrophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
3,3'-Dichlorobenzidine	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 UJL	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
4-Bromophenylphenylether	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
4-Chloro-3-methylphenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
4-Chloroaniline	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
4-Chlorophenylphenylether	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
4-Nitrophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 UJL	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Acenaphthene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	42.4 U	41.2 U	426 U	39.5 U	204 U	398 U	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
Acenaphthylene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	42.4 U	41.2 U	426 U	39.5 U	204 U	398 U	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
Acetophenone	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Anthracene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	42.4 U	41.2 U	426 U	39.5 U	204 U	398 U	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
Atrazine	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Benzaldehyde	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Benzo(a)anthracene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	42.4 U	41.2 U	426 U	**62.8**	204 U	398 UJL	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
Benzo(a)pyrene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 UJK	44.1 UJK	44.9 U	42.4 U	41.2 U	426 U	**51.8**	204 U	398 UJL	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 UJL	3880 UJL
Benzo(b)fluoranthene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 UJK	44.1 UJK	44.9 U	42.4 U	41.2 U	426 U	**58.5**	204 U	398 UJL	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 UJL	3880 UJL
Benzo(ghi)perylene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 UJK	44.1 UJK	44.9 U	42.4 U	41.2 U	426 UJL	39.5 U	204 U	398 UJL	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 UJL	3880 UJL
Benzo(k)fluoranthene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 UJK	44.1 UJK	44.9 U	42.4 U	41.2 U	426 U	39.5 U	204 U	398 UJL	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 UJL	3880 UJL
bis(2-Chloroethoxy)methane	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
bis(2-Chloroethyl) ether	447 UJL	405 UJL	407 UJL	424 UJL	409 UJL	477 UJL	441 UJL	449 UJL	424 UJL	412 UJL	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
bis(2-Chloroisopropyl)ether	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 UJL	38100 UJL	37800 UJL	9680 U	9520 U	9460 U	44100 UJL	38800 UJL
bis(2-Ethylhexyl)phthalate	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 UJL	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 UJL	38800 UJL
Butylbenzylphthalate	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 UJL	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 UJL	38800 UJL
Caprolactam	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	**8670**	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Carbazole	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	42.4 U	41.2 U	426 U	39.5 U	204 U	398 U	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
Chrysene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	42.4 U	41.2 U	426 U	**65.6**	204 U	398 UJL	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
Dibenzo(a,h)anthracene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 UJK	44.1 UJK	44.9 U	42.4 U	41.2 U	426 UJL	39.5 U	204 U	398 UJL	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 UJL	3880 UJL
Dibenzofuran	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 UJL	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Diethylphthalate	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Dimethylphthalate	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Di-n-butylphthalate	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Di-n-octylphthalate	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 UJL	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 UJL	38800 UJL
Diphenylamine	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Fluoranthene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	**46.6**	41.2 U	426 U	**76.3**	**285**	398 U	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
Fluorene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	**234**	44.9 U	42.4 U	41.2 U	426 U	39.5 U	**1030**	398 U	**4160**	**4500**	3780 U	**1010**	952 U	946 U	4410 U	3880 U
Hexachlorobenzene	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 UJL	38800 UJL
Hexachlorobutadiene	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Hexachlorocyclopentadiene	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 UJL	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 UJL	38800 UJL
Hexachloroethane	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Indeno(1,2,3-cd)pyrene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 UJK	44.1 UJK	44.9 U	42.4 U	41.2 U	426 UJL	**41.5**	204 U	398 UJL	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 UJL	3880 UJL

Avery Landing Site
Contaminated Stockpiles Sample Results

Sample Number	12060101	12060102	12060103	12060104	12060105	12060106	12060107	12060108	12060109	12060110	12060111	12060112	12060113	12060114	12060115	12060116	12060117	12060118	12060119	12060120	12060121	12060122
Location	SP01SSC1A	SP02SSC1B	SP03SSC1C	SP04SSC1D	SP05SSC1E	SP06SSC1F	SP07SSC1G	SP08SSC1H	SP09SSC1I	SP10SSC1J	SP11SSC2	SP12SSC3	SP13SSM	SP14SSC1	SP15SSC1	SP15SSC9	SP16SSC3	SP17SSC1	SP18SSC2	SP19SSC3	SP20SSB1	SP21SSC3
Collection Date	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/25/2012	7/5/2012	7/17/2012	7/30/2012	8/15/2012	8/15/2012	8/18/2012	8/27/2012	8/27/2012	8/27/2012	9/10/2012	9/10/2012
Isophorone	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
m,p-Cresols	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
m-Nitroaniline	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Naphthalene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	47.7 U	44.1 U	44.9 U	42.4 U	41.2 U	**1710**	39.5 U	**381**	398 U	3780 U	3810 U	3780 U	968 U	952 U	946 U	4410 U	3880 U
Nitrobenzene	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
N-Nitrosodipropylamine	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
o-Nitroaniline	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Pentachlorophenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 UJL	38800 UJL
Phenanthrene	**443**	**156**	**702**	**587**	**252**	**447**	**299**	**338**	**242**	**363**	**4750**	39.5 U	**1540**	**4740**	**10100**	**9490**	**6120**	**3350**	**3080**	946 U	4410 U	3880 U
Phenol	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 U	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
p-Nitroaniline	447 U	405 U	407 U	424 U	409 U	477 U	441 U	449 U	424 U	412 U	4260 U	395 UJL	2040 U	3980 U	37800 U	38100 U	37800 U	9680 U	9520 U	9460 U	44100 U	38800 U
Pyrene	44.7 U	40.5 U	40.7 U	42.4 U	40.9 U	**189**	**169**	**150**	**124**	41.2 U	**992**	**356**	**440**	**2490 JH**	**4040**	3810 U	3780 U	**1660**	**3160**	**1430**	4410 UJL	3880 UJL

Note: Results in **BOLD** indicated a positive detection.

Key:

µg/kg = micrograms per kilogram
JH = positive detection, but approximate concentration with high bias
JL = positive detection, but approximate concentration with low bias
PCB = Polychlorinated Biphenyls
SVOC = Semi Volatile Organic Compounds
U = not detected at indicated reporting limit
UJK = not detected at indicated reporting limit; reporting limit is estimated with unknown bias
UJL = not detected at indicated reporting limit; reporting limit is estimated with low bias

Avery Landing Site Contaminated Stockpiles TCLP Metals and VOC Sample Results										
Sample Number	**12060101**	**12060102**	**12060103**	**12060104**	**12060105**	**12060106**	**12060107**	**12060108**	**12060109**	**12060110**
Location	**SP01SSC1A**	**SP02SSC1B**	**SP03SSC1C**	**SP04SSC1D**	**SP05SSC1E**	**SP06SSC1F**	**SP07SSC1G**	**SP08SSC1H**	**SP09SSC1I**	**SP10SSC1J**
Collection Date	**6/20/2012**	**6/20/2012**	**6/20/2012**	**6/20/2012**	**6/20/2012**	**6/20/2012**	**6/20/2012**	**6/20/2012**	**6/20/2012**	**6/20/2012**
TCLP Metals (mg/L)										
Arsenic	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Barium	**0.535**	**0.477**	**0.534**	**0.489**	**0.488**	**0.477**	**0.495**	**0.421**	**0.483**	**0.52**
Cadmium	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chromium	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Lead	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Selenium	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Silver	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Mercury	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Volatile Organic Compunds (µg/kg)										
1,1,1-Trichloroethane	125 U	118 U	119 U	122 U	247 U	112 U	129 U	126 U	142 U	108 U
1,1,2,2-Tetrachloroethane	125 U	118 U	119 U	122 U	122 U	112 U	129 U	126 U	142 U	108 U
1,1,2-Trichloroethane	125 U	118 U	119 U	122 U	122 U	112 U	129 U	126 U	142 U	108 U
1,1-Dichloroethane	125 U	118 U	119 U	122 U	122 U	112 U	129 U	126 U	142 U	108 U
1,1-Dichloroethene	125 U	118 U	119 U	122 U	611 U	560 U	646 U	631 U	142 U	108 U
1,2-Dichloroethane	125 U	118 U	119 U	122 U	122 U	112 U	129 U	126 U	142 U	108 U
1,2-Dichloroethylene (total)	249 U	236 U	237 U	244 U	122 U	112 U	129 U	126 U	284 U	216 U
1,2-Dichloropropane	125 U	118 U	119 U	122 U	122 U	112 U	129 U	123 U	142 U	108 U
2-Butanone (MEK)	623 U	591 U	593 U	611 U	122 U	112 U	129 U	R	R	R
2-Hexanone	623 U	591 U	593 U	611 U	611 U	560 U	646 U	617 U	709 U	540 U
4-Methyl-2-pentanone (MIBK)	623 U	591 U	593 U	611 U	122 U	112 U	129 U	617 U	709 U	540 U
Acetone	623 U	591 U	593 U	611 U	366 U	336 U	388 U	617 U	709 U	540 U
Benzene	125 U	118 U	119 U	122 U	122 U	112 U	129 U	123 U	142 U	108 U
Bromodichloromethane	125 U	118 U	119 U	122 U	122 U	112 U	129 U	123 U	142 U	108 U
Bromoform	125 U	118 U	119 U	122 U	244 U	224 U	258 U	123 U	142 U	108 U
Bromomethane (Methyl bromide)	125 U	118 U	119 U	122 U	122 U	112 U	129 U	123 U	142 U	108 U
Carbon disulfide	623 U	591 U	593 U	611 U	122 U	112 U	129 U	617 U	709 U	540 U
Carbon tetrachloride	125 U	118 U	119 U	122 U	122 U	112 U	129 U	123 U	142 U	108 U
Chlorobenzene	125 U	118 U	119 U	122 U	122 U	112 U	129 U	123 U	142 U	108 U
Chloroethane	125 U	118 U	119 U	122 U	112 U	129 U	126 U	123 U	142 U	108 U
Chloroform	125 U	118 U	119 U	122 U	112 U	129 U	126 U	123 U	142 U	108 U
Chloromethane	125 U	118 U	119 U	126 U	112 U	129 U	126 U	123 U	142 U	108 U
Dibromochloromethane	125 U	118 U	119 U	126 U	112 U	129 U	126 U	123 U	142 U	108 U
Ethylbenzene	125 U	118 U	119 U	631 U	112 U	129 U	126 U	123 U	142 U	108 U
Methylene chloride	623 U	591 U	593 U	126 U	112 U	129 U	126 U	617 U	709 U	540 U
Styrene	125 U	118 U	119 U	379 U	224 U	258 U	252 U	123 U	142 U	108 U
Tetrachloroethene	125 U	118 U	119 U	126 U	112 U	129 U	126 U	123 U	142 U	108 U

Avery Landing Site
Contaminated Stockpiles TCLP Metals and VOC Sample Results

Sample Number	12060101	12060102	12060103	12060104	12060105	12060106	12060107	12060108	12060109	12060110
Location	SP01SSC1A	SP02SSC1B	SP03SSC1C	SP04SSC1D	SP05SSC1E	SP06SSC1F	SP07SSC1G	SP08SSC1H	SP09SSC1I	SP10SSC1J
Collection Date	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012	6/20/2012
Toluene	125 U	118 U	119 U	126 U	560 U	R	R	123 U	142 U	108 U
Trichloroethene	125 U	118 U	119 U	252 U	560 U	646 U	631 U	123 U	142 U	108 U
Vinyl acetate	623 U	591 U	593 U	126 U	560 U	646 U	631 U	617 U	709 U	540 U
Vinyl chloride	125 U	118 U	119 U	126 U	560 U	646 U	631 U	123 U	142 U	108 U
Xylenes (total)	374 U	354 U	356 U	126 U	112 U	129 U	126 U	370 U	425 U	324 U
cis-1,2-Dichloroethene	125 U	118 U	119 U	126 U	112 U	129 U	126 U	123 U	142 U	108 U
cis-1,3-Dichloropropene	125 U	118 U	119 U	123 U	112 U	129 U	126 U	123 U	142 U	108 U
m,p-Xylene	249 U	236 U	237 U	123 U	112 U	129 U	126 U	247 U	284 U	216 U
o-Xylene	125 U	118 U	119 U	123 U	560 U	646 U	631 U	123 U	142 U	108 U
Methyl tert-butyl Ether (MTBE)	125 U	118 U	119 U	123 U	112 U	129 U	126 U	123 U	142 U	108 U
trans-1,2-Dichloroethene	125 U	118 U	119 U	123 U	112 U	129 U	126 U	123 U	142 U	108 U
trans-1,3-Dichloropropene	125 U	118 U	119 U	123 U	112 U	129 U	126 U	123 U	142 U	108 U

Note: Results in **BOLD** indicated a positive detection.

Key:

µg/kg = microgram per kilogram

mg/L = milligrams per liter

R = Results rejected due to deficiencies in ability to analyze sample and meet quality control criteria. Result cannot be verified.

TCLP = Toxicity Characteristic Leaching Procedure

U = not detected at indicated reporting limit

Avery Landing Site
Post Excavation Sample Results

Property	Federal Highway Administration									Bentcik / Idaho Department of Lands			
Sample Number	**12060201**	**12060202**	**12060203**	**12060204**	**12060060**	**12060061**	**12060205**	**12060206**	**12060207**	**12060210**	**12060211**	**12060212**	**12060213**
Location	**PE01**	**PE02**	**PE03**	**PE04**	**PE05**	**PE06**	**PE07**	**PE08**	**PE09**	**PE10**	**PE11**	**PE12**	**PE13**
Collection Date	**6/28/2012**	**6/28/2012**	**6/28/2012**	**6/28/2012**	**7/11/2012**	**7/11/2012**	**7/18/2012**	**7/24/2012**	**7/24/2012**	**8/2/2012**	**8/9/2012**	**8/22/2012**	**8/31/2012**
Polychlorinated Biphenyls (µg/kg)													
Aroclor-1016	18.6 U	19.7 U	4.59 U	3.89 U	4.13 U	3.92 U	18.9 U	18.8 U	19.3 U	3.67 U	3.96 U	3. 94 U	3.87 U
Aroclor-1221	18.6 U	19.7 U	4.59 U	3.89 U	4.13 U	3.92 U	18.9 U	18.8 U	19.3 U	3.67 U	3.96 U	3. 94 U	3.87 U
Aroclor-1232	18.6 U	19.7 U	4.59 U	3.89 U	4.13 U	3.92 U	18.9 U	18.8 U	19.3 U	3.67 U	3.96 U	3. 94 U	3.87 U
Aroclor-1242	18.6 U	19.7 U	4.59 U	3.89 U	4.13 U	3.92 U	18.9 U	18.8 U	19.3 U	3.67 U	3.96 U	3. 94 U	3.87 U
Aroclor-1248	18.6 U	19.7 U	4.59 U	3.89 U	4.13 U	3.92 U	18.9 U	18.8 U	19.3 U	3.67 U	3.96 U	3. 94 U	3.87 U
Aroclor-1254	18.6 U	19.7 U	4.59 U	3.89 U	4.13 U	3.92 U	18.9 U	18.8 U	19.3 U	3.67 U	3.96 U	3. 94 U	3.87 U
Aroclor-1260	18.6 U	19.7 U	4.59 U	3.89 U	4.13 UJL	3.92 UJL	18.9 U	18.8 U	19.3 UJK	3.67 U	3.96 U	3. 94 U	3.87 U
PCB Total	18.6 U	19.7 U	4.59 U	3.89 U	4.13 UJL	3.92 UJL	18.9 U	18.8 U	19.3 UJK	3.67 U	3.96 U	3. 94 U	3.87 U
Semivolatile Organic Compounds (µg/kg)													
1,1'-Biphenyl	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
1,2,4,5-Tetrachlorobenzene	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
1-Methylnaphthalene	**480**	7.89 U	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**21.9**	**20.6**	7.36U	39.6 U	39.8 U	38.7 U
2,3,4,6-Tetrachlorophenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
2,4,5-Trichlorophenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
2,4-Dichlorophenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
2,4-Dimethylphenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
2,4-Dinitrophenol	745 U	789 U	919 U	778 U	826 U	784 U	754 U	756 U	779 U	736 U	791 U	795 U	775 U
2,4-Dinitrotoluene	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
2-Chloronaphthalene	**90.9 JL**	7.89 U	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	7.79 U	7.36 U	39.6 U	39.8 U	38.7 U
2-Chlorophenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 UJK	398 U	387 U
2-Methyl-4,6-dinitrophenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
2-Methylnaphthalene	**27.9**	7.89 U	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	**18.3**	7.36 U	39.6 U	39.8 U	38.7 U
2-Methylphenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
2-Nitrophenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
3,3'-Dichlorobenzidine	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
4-Bromophenylphenylether	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
4-Chloro-3-methylphenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
4-Chloroaniline	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
4-Chlorophenylphenylether	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
4-Nitrophenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Acenaphthene	7.45 U	7.89 U	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	7.79 U	7.36 U	39.6 U	39.8 U	38.7 U
Acenaphthylene	7.45 U	7.89 U	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	7.79 U	7.36U	39.6 U	39.8 U	38.7 U
Acetophenone	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Anthracene	7.45 UJK	**87.9**	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	7.79 U	7.36U	39.6 U	39.8 U	38.7 U
Atrazine	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Benzaldehyde	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 UJL	396 U	398 U	387 U
Benzo(a)anthracene	**35.8**	**17.3**	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**24.6**	**24.9**	7.36 U	39.6 U	39.8 U	38.7 U
Benzo(a)pyrene	**37.6**	**28.8 JH**	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**15.9**	**19.9**	7.36 U	39.6 U	39.8 U	38.7 U

Avery Landing Site
Post Excavation Sample Results

Property	Federal Highway Administration									Bentcik / Idaho Department of Lands			
Sample Number	**12060201**	**12060202**	**12060203**	**12060204**	**12060060**	**12060061**	**12060205**	**12060206**	**12060207**	**12060210**	**12060211**	**12060212**	**12060213**
Location	**PE01**	**PE02**	**PE03**	**PE04**	**PE05**	**PE06**	**PE07**	**PE08**	**PE09**	**PE10**	**PE11**	**PE12**	**PE13**
Collection Date	**6/28/2012**	**6/28/2012**	**6/28/2012**	**6/28/2012**	**7/11/2012**	**7/11/2012**	**7/18/2012**	**7/24/2012**	**7/24/2012**	**8/2/2012**	**8/9/2012**	**8/22/2012**	**8/31/2012**
Benzo(b)fluoranthene	7.45 U	7.89 UJL	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**15.9**	**29.6**	7.36 U	39.6 U	39.8 U	38.7 U
Benzo(ghi)perylene	12.3 U	14.2 UJL	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	**16.4**	7.36 U	39.6 U	39.8 U	38.7 U
Benzo(k)fluoranthene	7.45 U	7.89 UJL	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	7.79 U	7.36 U	39.6 U	39.8 U	38.7 U
bis(2-Chloroethoxy)methane	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
bis(2-Chloroethyl) ether	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
bis(2-Chloroisopropyl)ether	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 UJL	396 U	398 U	387 U
bis(2-Ethylhexyl)phthalate	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Butylbenzylphthalate	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Caprolactam	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Carbazole	37.2 U	R	46 U	38.9 U	41.3 U	39.2 U	37.7 U	37.8 U	39 U	36.8 U	39.6 U	39.8 U	38.7 UJL
Chrysene	**72.3**	**33.5**	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**45**	**56.9**	7.36 U	39.6 U	39.8 U	38.7 U
Dibenzo(a,h)anthracene	7.45 U	7.89 UJL	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	7.79 U	7.36 U	39.6 U	39.8 U	38.7 U
Dibenzofuran	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Diethylphthalate	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Dimethylphthalate	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Di-n-butylphthalate	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Di-n-octylphthalate	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Diphenylamine	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 UJK	398 U	387 U
Fluoranthene	**136**	**16.6**	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**76.4**	**70.5**	7.36 U	39.6 U	39.8 U	38.7 U
Fluorene	**175**	7.89 U	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**48**	**42.5**	7.36 U	39.6 U	39.8 U	38.7 U
Hexachlorobenzene	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Hexachlorobutadiene	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Hexachlorocyclopentadiene	372 UJL	394 UJL	460 UJL	389 UJL	413 UJL	392 UJL	377 UJL	378 UJL	390 UJL	368 U	396 U	398 U	387 U
Hexachloroethane	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Indeno(1,2,3-cd)pyrene	7.45 U	8.67 UJL	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	**9.35**	7.36 U	39.6 U	39.8 U	38.7 U
Isophorone	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
m,p-Cresols	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
m-Nitroaniline	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Naphthalene	7.45 U	7.89 U	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	7.56 U	**16.4**	7.36 U	39.6 U	39.8 U	38.7 U
Nitrobenzene	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
N-Nitrosodipropylamine	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
o-Nitroaniline	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 U
Pentachlorophenol	372 UJL	394 UJL	460 UJL	389 UJL	413 U	392 U	377 UJL	378 UJL	390 UJL	368 U	396 U	398 U	387 U
Phenanthrene	**395**	**87.5**	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**106**	**102**	**10.7**	39.6 U	39.8 U	38.7 U
Phenol	372 U	394 U	460 U	389 U	413 U	392 U	377 U	378 U	390 U	368 U	396 UJK	398 U	387 U
p-Nitroaniline	372 UJL	394 UJL	460 UJL	389 UJL	413 U	392 U	377 U	378 U	390 U	368 U	396 U	398 U	387 UJL
Pyrene	**168**	**84.4**	9.19 U	7.78 U	8.26 U	7.84 U	7.54 U	**120**	**123**	7.36U	39.6 U	39.8 U	38.7 U
Volatile Organic Compounds (µg/kg)													
1,1,1-Trichloroethane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U

Avery Landing Site
Post Excavation Sample Results

Property	Federal Highway Administration									Bentcik / Idaho Department of Lands			
Sample Number	**12060201**	**12060202**	**12060203**	**12060204**	**12060060**	**12060061**	**12060205**	**12060206**	**12060207**	**12060210**	**12060211**	**12060212**	**12060213**
Location	**PE01**	**PE02**	**PE03**	**PE04**	**PE05**	**PE06**	**PE07**	**PE08**	**PE09**	**PE10**	**PE11**	**PE12**	**PE13**
Collection Date	**6/28/2012**	**6/28/2012**	**6/28/2012**	**6/28/2012**	**7/11/2012**	**7/11/2012**	**7/18/2012**	**7/24/2012**	**7/24/2012**	**8/2/2012**	**8/9/2012**	**8/22/2012**	**8/31/2012**
1,1,2,2-Tetrachloroethane	0.92 UJL	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
1,1,2-Trichloroethane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
1,1-Dichloroethane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
1,1-Dichloroethene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
1,2-Dichloroethane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
1,2-Dichloroethylene (total)	1.84 U	205 U	2.47 U	1.83 U	2.53 U	2.18 U	1.8 U	1.97 UJL	2.25 UJL	1.85 U	1.86 UJL	1.72 U	1.85 U
1,2-Dichloropropane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
2-Butanone (MEK)	4.6 U	512 U	6.17 U	4.57 U	6.34 U	5.46 U	4.51 U	4.91 UJL	5.63 UJL	4.62 U	4.65 UJL	4.3 U	4.62 U
2-Hexanone	4.6 U	512 U	6.17 U	4.57 U	6.34 U	5.46 U	4.51 U	4.91 UJL	5.63 UJL	4.62 U	4.65 UJL	4.3 U	4.62 U
4-Methyl-2-pentanone (MIBK)	4.6 U	512 U	6.17 U	4.57 U	6.34 U	5.46 U	4.51 U	4.91 UJL	5.63 UJL	4.62 U	4.65 UJL	4.3 U	4.62 U
Acetone	**9.18**	512 U	**12.6**	4.57 U	6.34 U	5.46 U	**7.4**	**28.7 JL**	**47.7 JL**	**5.24**	**24.4 JL**	4.3 U	4.62 U
Benzene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Bromodichloromethane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Bromoform	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Bromomethane (Methyl bromide)	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Carbon disulfide	4.6 U	512 U	6.17 U	4.57 U	6.34 U	5.46 U	4.51 U	4.91 UJL	5.63 UJL	4.62 U	4.65 UJL	4.3 U	4.62 U
Carbon tetrachloride	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Chlorobenzene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Chloroethane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Chloroform	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Chloromethane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
cis-1,2-Dichloroethene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
cis-1,3-Dichloropropene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Dibromochloromethane	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Ethylbenzene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
m,p-Xylene	1.84 U	205 U	2.47 U	1.83 U	2.53 U	2.18 U	1.8 U	1.97 UJL	2.25 UJL	1.85 U	1.86 UJL	1.72 U	1.85 U
Methyl tert-butyl Ether (MTBE)	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Methylene chloride	4.6 U	512 U	6.17 U	4.57 U	6.34 U	5.46 U	4.51 U	4.91 UJL	5.63 UJL	4.62 U	4.65 UJL	4.3 U	4.62 U
o-Xylene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Styrene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	**1.23**	0.925 U
Tetrachloroethene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Toluene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
trans-1,2-Dichloroethene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
trans-1,3-Dichloropropene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Trichloroethene	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Vinyl acetate	4.6 U	512 U	6.17 U	4.57 U	6.34 U	5.46 U	4.51 U	4.91 UJL	5.63 UJL	4.62 U	4.65 UJL	4.3 U	4.62 U
Vinyl chloride	0.92 U	102 U	1.23 U	0.914 U	1.27 U	1.09 U	0.902 U	0.983 UJL	1.13 UJL	0.925 U	0.93 UJL	0.86 U	0.925 U
Xylenes (total)	2.76 U	307 U	3.7 U	2.74 U	3.8 U	3.27 U	2.71 U	2.95 UJL	3.38 UJL	2.77 U	2.79 UJL	2.58 U	2.77 U
NWTPH Dx Data (mg/kg)													

Avery Landing Site
Post Excavation Sample Results

Property	Federal Highway Administration									Bentcik / Idaho Department of Lands			
Sample Number	**12060201**	**12060202**	**12060203**	**12060204**	**12060060**	**12060061**	**12060205**	**12060206**	**12060207**	**12060210**	**12060211**	**12060212**	**12060213**
Location	**PE01**	**PE02**	**PE03**	**PE04**	**PE05**	**PE06**	**PE07**	**PE08**	**PE09**	**PE10**	**PE11**	**PE12**	**PE13**
Collection Date	**6/28/2012**	**6/28/2012**	**6/28/2012**	**6/28/2012**	**7/11/2012**	**7/11/2012**	**7/18/2012**	**7/24/2012**	**7/24/2012**	**8/2/2012**	**8/9/2012**	**8/22/2012**	**8/31/2012**
#2 Diesel (C10-C24)	**760 JH**	**2700 JH**	31 U	29 U	26 U	29 U	na	**200**	**1600**	29 U	**16 JQ**	**83 JH**	**7.3 JQ**
Motor Oil (>C24-C36)	**470 JH**	**350 JH**	61 U	58 U	53 U	57 U	na	**150**	**1300**	58 U	**19 JQ**	**80 JH**	60 U

Note: Results in **BOLD** indicated a positive detection.

Key:

µg/kg = micrograms per kilogram
µg/L = micrograms per liter
JH = positive detection, but approximate concentration with high bias
JL = positive detection, but approximate concentration with low bias
JQ = positive detection, result is between method detection limit and reporting limit
mg/kg = milligrams per kilogram
na = not analyzed
NWTPH Dx = Extended Diesel Range Total Petroleum Hydrocarbons
R = Results rejected due to deficiencies in ability to analyze sample and meet quality control criteria. Result cannot be verified.
U = not detected at indicated reporting limit
UJK = not detected at indicated reporting limit; reporting limit is estimated with unknown bias
UJL = not detected at indicated reporting limit; reporting limit is estimated with low bias

Avery Landing Site
Water Treatment Sample Results

Sample Type				Influent Samples (Untreated)					Effluent Samples (Treated Discharge Water)																
Sample Number	Idaho Surface Water Criteria (µg/L)	Laboratory Reporting Limit (approximate) (µg/L)	Site Discharge Criteria (µg/L)	12060501	12060503	12060506	12060518	12060523	12060502	12060504	12060505	12060507	12060508	12060509	12060514	12060515	12060516	12060517	12060519	12060520	12060521	12060522	12060524	12060525
Location				WI-01	WI-02	WI-03	WI-10	WI-14	WO-01	WO-02	WO-03	WO-04	WO-05	WO-06	WO-07	WO-08	WO-09	WO-10	WO-11	WO-12	WO-13	WO-14	WO-15	WO-15D
Collection Date				6/14/2012	6/15/2012	6/16/2012	7/31/2012	8/29/2012	6/14/2012	6/15/2012	6/16/2012	6/20/2012	6/26/2012	7/5/2012	7/11/2012	7/18/2012	7/24/2012	7/31/2012	8/7/2012	8/15/2012	8/22/2012	8/29/2012	9/6/2012	9/6/2012
Metals Data (µg/L)																								
Arsenic	10	5	10	**38.8**	**38**	**46.9**	**31.4**	**20.2**	**7.53**	**4.64**	1.7 U	**5.89**	5.0 U	**5.81**	5 U	5 U	5 U	5 U	*5 U*	5 U	5 U	7.15 U	5 U	5 U
Cadmium	0.6	1	< RL	1.0 U	**0.738**	**0.605**	1 U	1 U	1.0 U	0.11 U	0.11 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium	11	10	11	50 U	**6.33 JL**	**10.2 JL**	10 U	10 U	10 U	2 UJL	2 UJL	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Copper	11	1	11	**38.9**	**39.2**	**33.6**	**79**	**5.04**	**1.82**	**2.26**	0.35 U	1.11 U	1.31 U	2 U	1 U	1 U	1.34 U	**1.05**	4.08 U	1 U	1 U	1 U	**1.42**	**1.19**
Lead	2.5	2	2.5	**43.1**	**44**	**28.8**	**75.4**	**2.91**	2.0 U	**1.88**	0.5 U	2.0 U	2.0 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Thallium	0.24	2	< RL	2.0 UJK	0.45 U	0.45 U	2 U	2 U	2.0 UJK	0.45 U	0.45 U	2.0 U	2.0 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Zinc	120	10	120	**176 JK**	**173**	**121**	**275**	**11.6**	**51.7 JK**	**82.3**	3.5 U	**21.6**	10 U	2 U	**12.8**	**10.6**	**222**	**11.7**	*10 U*	10 U	**12.4**	10 U	10 U	10 U
SVOC Data (µg/L)																								
Benzo[a]anthracene	0.0038	1	< RL	0.952 U	1.0 U	1.0 U	1 U	1.03 U	0.980 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1 U
Benzo[a]pyrene	0.0038	1	< RL	0.952 U	1.0 U	1.0 U	1 U	1.03 U	0.980 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1 U
Benzo[b]fluoranthene	0.0038	1	< RL	0.952 U	1.0 U	1.0 U	1 U	1.03 U	0.980 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1 U
Chrysene	0.0038	1	< RL	0.952 U	1.0 U	1.0 U	1 U	1.03 U	0.980 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1 U
Diphenylamine	3.3	10	< RL	9.52 U	10 U	10 U	10 U	10.3 U	9.80 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.1 U	10 U
Bis(2-ethylhexyl)phthalate	1.2	10	< RL	9.52 U	10 U	10 U	10 U	**13.4**	9.80 U	**15.4**	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10.1 U	**20.3**
PCB Data (µg/L)																								
Aroclor-1016	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1221	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1232	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1242	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1248	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1254	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-1260	n/a	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U
Aroclor-Total	0.000064	0.01	< RL	0.0962 U	0.1 U	0.1 U	0.1 UJL	0.0971 U	0.0962 U	0.1 U	0.1 U	0.0971 U	0.1 U	0.1 U	0.0962 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.098 U	0.098 U	0.098 U

Note: Results in **BOLD** indicated a positive detection.

Shaded results indicates a result that exceeds the site discharge criteria.

Key:

µg/L = micrograms per liter
JK = estimated result with unknown bias
JL = positive detection, but approximate concentration with low bias
n/a = not applicable
PCB = Polychlorinated Biphenyls
< RL = less than the reporting limit
U = not detected at indicated reporting limit
UJK = not detected at indicated reporting limit; reporting limit is estimated with unknown bias
UJL = not detected at indicated reporting limit; reporting limit is estimated with low bias
SVOC = Semi Volatile Organic Compounds

Avery Landing Site Product Sample Results			
Sample Number	**12060401**	**12060402**	**12060403**
Location	**PR01**	**PR02**	**PR02D**
Collection Date	**6/28/2012**	**8/7/2012**	**8/7/2012**
NWTPH Dx Data (mg/kg)			
#2 Diesel (C10-C24)	**75,000 JH**	na	na
Motor Oil (>C24-C36)	**190,000 JH**	na	na
NWTPH HCID (mg/kg)			
Motor Oil	**170,000 JH**	na	na
Gasoline	**4500 JH**	na	na
#2 Diesel (>C12-C24)	**84,000 JH**	na	na
SVOC Data (µg/kg)			
1,1'-Biphenyl	na	100,000 U	93,500 U
1,2,4,5-Tetrachlorobenzene	na	100,000 U	93,500 U
1-Methylnaphthalene	na	10,000 U	9350 U
2,3,4,6-Tetrachlorophenol	na	100,000 U	93,500 U
2,4,5-Trichlorophenol	na	100,000 U	93,500 U
2,4,6-Trichlorophenol	na	100,000 U	93,500 U
2,4-Dichlorophenol	na	100,000 U	93,500 U
2,4-Dimethylphenol	na	100,000 U	93,500 U
2,4-Dinitrophenol	na	200,000 U	187000 U
2,4-Dinitrotoluene	na	100,000 U	93,500 U
2,6-Dinitrotoluene	na	100,000 U	93,500 U
2-Chloronaphthalene	na	10,000 U	9350 U
2-Chlorophenol	na	100,000 U	93,500 U
2-Methyl-4,6-dinitrophenol	na	100,000 U	93,500 U
2-Methylnaphthalene	na	10,000 U	9350 U
2-Methylphenol	na	100,000 U	93,500 U
2-Nitrophenol	na	100,000 U	93,500 U
3,3'-Dichlorobenzidine	na	100,000 U	93,500 U
4-Bromophenylphenylether	na	100,000 U	93,500 U
4-Chloro-3-methylphenol	na	100,000 U	93,500 U
4-Chloroaniline	na	100,000 U	93,500 U
4-Chlorophenylphenylether	na	100,000 U	93,500 U
4-Nitrophenol	na	100,000 U	93,500 U
Acenaphthene	na	10,000 U	9350 U
Acenaphthylene	na	10,000 U	9350 U
Acetophenone	na	100,000 U	93,500 U
Anthracene	na	10,000 U	9350 U
Atrazine	na	100,000 U	93,500 U
Benzaldehyde	na	100,000 U	93,500 U
Benzo(a)anthracene	na	10,000 U	9350 U
Benzo(a)pyrene	na	10,000 U	9350 U
Benzo(b)fluoranthene	na	10,000 U	9350 U
Benzo(ghi)perylene	na	10,000 U	9350 U
Benzo(k)fluoranthene	na	10,000 U	9350 U
bis(2-Chloroethoxy)methane	na	100,000 U	93,500 U
bis(2-Chloroethyl) ether	na	100,000 U	93,500 U

Avery Landing Site Product Sample Results			
Sample Number	**12060401**	**12060402**	**12060403**
Location	**PR01**	**PR02**	**PR02D**
Collection Date	**6/28/2012**	**8/7/2012**	**8/7/2012**
bis(2-Chloroisopropyl)ether	na	100,000 U	93,500 U
bis(2-Ethylhexyl)phthalate	na	100,000 U	93,500 U
Butylbenzylphthalate	na	100,000 U	93,500 U
Caprolactam	na	100,000 U	93,500 U
Carbazole	na	10,000 U	9350 U
Chrysene	na	10,000 U	9350 U
Dibenzo(a,h)anthracene	na	10,000 U	9350 U
Dibenzofuran	na	100,000 U	93,500 U
Diethylphthalate	na	100,000 U	93,500 U
Dimethylphthalate	na	100,000 U	93,500 U
Di-n-butylphthalate	na	100,000 U	93,500 U
Di-n-octylphthalate	na	100,000 U	93,500 U
Diphenylamine	na	100,000 U	93,500 U
Fluoranthene	na	10,000 U	9350 U
Fluorene	na	10,000 U	9350 U
Hexachlorobenzene	na	100,000 U	93,500 U
Hexachlorobutadiene	na	100,000 U	93,500 U
Hexachlorocyclopentadiene	na	100,000 UJL	93,500 UJL
Hexachloroethane	na	100,000 U	93,500 U
Indeno(1,2,3-cd)pyrene	na	10,000 U	9350 U
Isophorone	na	100,000 U	93,500 U
m,p-Cresols	na	100,000 U	93,500 U
m-Nitroaniline	na	100,000 U	93,500 U
Naphthalene	na	10,000 UJL	9350 UJL
Nitrobenzene	na	100,000 U	93,500 U
N-Nitrosodipropylamine	na	100,000 U	93,500 U
o-Nitroaniline	na	100,000 U	93,500 U
Pentachlorophenol	na	100,000 U	93,500 U
Phenanthrene	na	10,000 U	9350 U
Phenol	na	100,000 U	93,500 U
p-Nitroaniline	na	100,000 U	93,500 U
Pyrene	na	10,000 U	9350 U

Avery Landing Site Product Sample Results			
Sample Number	**12060401**	**12060402**	**12060403**
Location	**PR01**	**PR02**	**PR02D**
Collection Date	**6/28/2012**	**8/7/2012**	**8/7/2012**

Note: Results in **BOLD** indicated a positive detection.

Key:

µg/kg = micrograms per kilogram
JH = positive detection, but approximate concentration with high bias
mg/kg = milligrams per kilogram
na = not analyzed
NWTPH Dx = Extended Diesel Range Total Petroleum Hydrocarbons
NWTPH HCID = Hydrocarbon Identification
SVOC = Semi Volatile Organic Compounds
U = not detected at indicated reporting limit
UJL = not detected at indicated reporting limit; reporting limit is estimated with low bias

Avery Landing Site Infiltration Trench Sample Results		
Sample Number	**12060076 & 78**	**12060077 & 79**
Location	**IE01 & IE03**	**IE02 & IE04**
Collection Date	**7/21/12 & 7/23/12**	**7/21/12 & 7/23/12**
PCB Data (µg/kg)		
Aroclor-1016	21.6 U	21.8 U
Aroclor-1221	21.6 U	21.8 U
Aroclor-1232	21.6 U	21.8 U
Aroclor-1242	21.6 U	21.8 U
Aroclor-1248	21.6 U	21.8 U
Aroclor-1254	21.6 U	21.8 U
Aroclor-1260	21.6 U	21.8 U
Aroclor-Total	21.6 U	21.8 U
SVOC Data (µg/kg)		
1,1'-Biphenyl	433 U	438 U
1,2,4,5-Tetrachlorobenzene	433 U	438 U
1-Methylnaphthalene	43.3 U	43.8 U
2,3,4,6-Tetrachlorophenol	433 U	438 U
2,4,5-Trichlorophenol	433 U	438 U
2,4,6-Trichlorophenol	433 U	438 U
2,4-Dichlorophenol	433 U	438 U
2,4-Dimethylphenol	433 U	438 U
2,4-Dinitrophenol	866 U	875 U
2,4-Dinitrotoluene	433 U	438 U
2,6-Dinitrotoluene	433 U	438 U
2-Chloronaphthalene	43.3 U	43.8 U
2-Chlorophenol	433 U	438 U
2-Methyl-4,6-dinitrophenol	433 U	438 U
2-Methylnaphthalene	43.3 U	43.8 U
2-Methylphenol	433 U	438 U
2-Nitrophenol	433 U	438 U
3,3'-Dichlorobenzidine	433 U	438 U
4-Bromophenylphenylether	433 U	438 U
4-Chloro-3-methylphenol	433 U	438 U
4-Chloroaniline	433 U	438 U
4-Chlorophenylphenylether	433 U	438 U
4-Nitrophenol	433 U	438 U
Acenaphthene	43.3 U	43.8 U
Acenaphthylene	43.3 U	43.8 U
Acetophenone	433 U	438 U
Anthracene	43.3 U	43.8 U
Atrazine	433 U	438 U
Benzaldehyde	433 U	438 U
Benzo(a)anthracene	**402**	**251**
Benzo(a)pyrene	43.3 U	43.8 U
Benzo(b)fluoranthene	43.3 U	43.8 U
Benzo(ghi)perylene	**126 JH**	43.8 U
Benzo(k)fluoranthene	43.3 U	43.8 U

Avery Landing Site Infiltration Trench Sample Results		
Sample Number	**12060076 & 78**	**12060077 & 79**
Location	**IE01 & IE03**	**IE02 & IE04**
Collection Date	**7/21/12 & 7/23/12**	**7/21/12 & 7/23/12**
bis(2-Chloroethoxy)methane	433 U	438 U
bis(2-Chloroethyl) ether	433 U	438 U
bis(2-Chloroisopropyl)ether	433 U	438 U
bis(2-Ethylhexyl)phthalate	433 U	438 U
Butylbenzylphthalate	433 U	438 U
Caprolactam	433 U	438 U
Carbazole	43.3 U	43.8 U
Chrysene	**629**	**384**
Dibenzo(a,h)anthracene	43.3 U	43.8 U
Dibenzofuran	433 U	438 U
Diethylphthalate	433 U	438 U
Dimethylphthalate	433 U	438 U
Di-n-butylphthalate	433 U	438 U
Di-n-octylphthalate	433 U	438 U
Diphenylamine	433 U	438 U
Fluoranthene	43.3 U	43.8 U
Fluorene	43.3 U	43.8 U
Hexachlorobenzene	433 U	438 U
Hexachlorobutadiene	433 U	438 U
Hexachlorocyclopentadiene	433 U	438 U
Hexachloroethane	433 U	438 U
Indeno(1,2,3-cd)pyrene	43.3 U	43.8 U
Isophorone	433 U	438 U
m,p-Cresols	433 U	438 U
m-Nitroaniline	433 U	438 U
Naphthalene	43.3 U	43.8 U
Nitrobenzene	433 U	438 U
N-Nitrosodipropylamine	433 U	438 U
o-Nitroaniline	433 U	438 U
Pentachlorophenol	433 U	438 U
Phenanthrene	**2940**	**1880**
Phenol	433 U	438 U
p-Nitroaniline	433 U	438 U
Pyrene	**2660**	**1110**
VOC Data (µg/kg)		
1,1,1-Trichloroethane	0.847 U	0.893 U
1,1,2,2-Tetrachloroethane	0.847 U	0.893 UJL
1,1,2-Trichloroethane	0.847 UJL	0.893 UJL
1,1-Dichloroethane	0.847 U	0.893 U
1,1-Dichloroethene	0.847 U	0.893 U
1,2-Dichloroethane	0.847 U	0.893 U
1,2-Dichloroethylene (total)	1.69 U	1.79 U
1,2-Dichloropropane	0.847 U	0.893 U
2-Butanone (MEK)	4.24 U	4.46 U
2-Hexanone	4.24 UJL	4.46 UJL

Avery Landing Site Infiltration Trench Sample Results		
Sample Number	**12060076 & 78**	**12060077 & 79**
Location	**IE01 & IE03**	**IE02 & IE04**
Collection Date	**7/21/12 & 7/23/12**	**7/21/12 & 7/23/12**
4-Methyl-2-pentanone (MIBK)	4.24 UJL	4.46 UJL
Acetone	**15.7**	**10.7**
Benzene	0.847 U	0.893 U
Bromodichloromethane	0.847 U	0.893 U
Bromoform	0.847 U	0.893 UJL
Bromomethane (Methyl bromide)	0.847 U	0.893 U
Carbon disulfide	4.24 U	4.46 U
Carbon tetrachloride	0.847 U	0.893 U
Chlorobenzene	0.847 UJL	0.893 UJL
Chloroethane	0.847 U	0.893 U
Chloroform	0.847 U	0.893 U
Chloromethane	0.847 U	0.893 U
cis-1,2-Dichloroethene	0.847 U	0.893 U
cis-1,3-Dichloropropene	0.847 U	0.893 U
Dibromochloromethane	0.847 UJL	0.893 UJL
Ethylbenzene	0.847 UJL	0.893 UJL
m,p-Xylene	1.69 UJL	1.79 UJL
Methyl tert-butyl Ether (MTBE)	0.847 U	0.893 U
Methylene chloride	4.24 U	4.46 U
o-Xylene	0.847 UJL	0.893 UJL
Styrene	0.847 UJL	0.893 UJL
Tetrachloroethene	0.847 UJL	0.893 UJL
Toluene	0.847 UJL	0.893 UJL
trans-1,2-Dichloroethene	0.847 U	0.893 U
trans-1,3-Dichloropropene	0.847 UJL	0.893 U
Trichloroethene	0.847 U	0.893 U
Vinyl acetate	4.24 U	4.46 U
Vinyl chloride	0.847 U	0.893 U
Xylenes (total)	2.54 U	2.68 U
NWTPH Dx Data (mg/kg)		
#2 Diesel (C10-C24)	**1700 JH**	**590 JH**
Motor Oil (>C24-C36)	**1700 JH**	**640 JH**

Avery Landing Site Infiltration Trench Sample Results		
Sample Number	**12060076 & 78**	**12060077 & 79**
Location	**IE01 & IE03**	**IE02 & IE04**
Collection Date	**7/21/12 & 7/23/12**	**7/21/12 & 7/23/12**

Note: Results in **BOLD** indicated a positive detection.

Key:

µg/kg = micrograms per kilogram

JH = positive detection, but approximate concentration with high bias

mg/kg = milligrams per kilogram

NWTPH Dx = Extended Diesel Range Total Petroleum Hydrocarbons

PCB = Polychlorinated Biphenyls

SVOC = Semi Volatile Organic Compounds

U = not detected at indicated reporting limit

UJL = not detected at indicated reporting limit; reporting limit is estimated with low bias

VOC = Volatile Organic Compounds

Avery Landing Site
Trip Blank Sample Results

Sample Number	12061901	12061902	12061903	12061904	12061905	12061906	12061907	12061908	12060909
Location	TB01	TB02	TB03	TB04	TB05	TB06	TB07	TB08	TB09
Collection Date	6/4/2012	6/26/2012	6/28/2012	8/2/2012	8/8/2012	8/9/2012	8/22/2012	8/31/2012	9/27/2012
VOC Data (µg/L)									
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	R	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone (MIBK)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl Ether (MTBE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl acetate	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes (total)	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U

Note: Results in **BOLD** indicated a positive detection.

Key:

µg/L = micrograms per liter

R = Results rejected due to deficiencies in ability to analyze sample and meet quality control criteria. Result cannot be verified.

U = not detected at indicated reporting limit

VOC = Volatile Organic Compounds

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F Community Relations Documentation

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United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Thursday, May 17, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Initial
Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	1	**Site #:**	IDD984666313
Reporting Period:	05/29/2012	**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:		**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
The Site is the location of a former railroad maintenance and refueling facility for the Chicago, Milwaukee, St. Paul, and Pacific Railroad (Milwaukee Railroad). The coordinates for the Site are latitude 47.2539000; longitude 115.8408000.

The Site was used as a maintenance and refueling facility for the Milwaukee Railroad from 1907 until 1977. The facility included a turntable, roundhouse, machine shop, fan house, engine house, boiler house, storehouses, coal dock, oil tanks, and a pump house. Activities included refueling trains, using solvents to clean engine parts, cleaning locomotives, and maintaining equipment. The facility was located at the end of an electric rail line from the east; at the facility, trains switched to fuel oil and/or diesel locomotives. Fuel oil was stored on-Site in a 500,000-gallon aboveground storage tank (AST). The Milwaukee Railroad began to operate electric locomotives in the mid-1910s and continued until the mid-1970s. All railroad-related structures were removed in the late 1970s and early 1980s. The Site is currently vacant except for a seasonal cabin.

The Site is within the narrow St. Joe River Valley, which is in the St. Joe National Forest District of the Idaho Panhandle National Forests. There are generally steep mountains to the north and south of the St Joe River, including directly north of Highway 50 from the Site. Land uses in the area around the Site are largely rural and recreational, which is consistent with its location surrounded by a national forest. The St. Joe River is a popular recreational waterway that is often used for kayaking, rafting, and fishing. There are several areas of commercial land nearby, including a motel and recreational vehicle park across the river.

The St. Joe River is used for wildlife habitat, recreation, and drinking water for downstream residents. The segment of the St. Joe River adjacent to the Site that could be impacted by

contaminants found at the Site has the following designations: special resource water, domestic water supply, primary contact recreation, cold water communities, and salmonid spawning. The following threatened or endangered species are present in the vicinity of the Site: Canada lynx (Lynx canadensis) and Bull trout (Salvelinus confluentus).

There are four (4) ownership interests associated with the Site, including those of the United States, Larry and Ethel Bentcik (Bentciks), Potlatch Land and Lumber, LLC (PLL), and the Idaho Department of Lands (IDL). The property of the United States at the Site is administered by the Federal Highway Administration (FHWA).

There is substantial information indicating that human health and environmental impacts are present at the Site. A petroleum plume of heavy oil and diesel is present in subsurface soil and groundwater and is migrating toward and discharging to the St. Joe River. Additionally, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), carcinogenic and non-carcinogenic polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals are present in subsurface soil and groundwater at the Site.

The commingled mixture of hazardous substances and oil found at the Site present an immediate risk to public health or welfare or the environment. Analytical results for hazardous substances show that VOCs, SVOCs, carcinogenic and non-carcinogenic PAHs, PCBs, and metals present in subsurface soil, sediment, surface water, and groundwater exceed applicable federal and/or state guidelines. Nearby seasonal residents, recreationists, commercial or municipal employees, and/or trespassers could be exposed to the Site contaminants found in subsurface soil and groundwater if engaged in subsurface disturbance activities. Although not open to the public, access to the Site is unrestricted and ingress and egress can be gained from both land and water. There are no physical barriers restricting access or institutional controls such as well drilling prohibitions to minimize the potential for human exposure to Site contamination by limiting land or resource use.

Ecological receptors may be exposed to Site-related contaminants present in Site media, and the Site-related contaminants may cause adverse effects in sensitive receptors. Ecological receptors can become exposed to Site contaminants through direct contact with the contaminants of concern mixed with oil and with water and sediments contaminated by the contaminants of concern mixed with oil; ingestion of the contaminants of concern mixed with oil and water and sediments contaminated by the contaminants of concern mixed with oil; and through the food chain by consuming animals and plants that have accumulated Site-related contamination.

Following the removal evaluation, an Engineering Evaluation/Cost Analysis (EE/CA) was prepared by EPA. The EE/CA summarizes available data on the characteristics of the Site, evaluates the actual or potential human health and ecological threats posed by the Site contaminants, evaluates a limited number of cleanup alternatives appropriate for the Site, and recommends a cleanup alternative to achieve Site cleanup goals. The EE/CA wa available for public review and comment for 45 days beginning 26 January 2011. Following public comment and evaluation of the EE/CA, the action memorandum was approved on 5 July 2011.

Current Activities

The removal action will require two construction seasons to complete. During 2012, EPA will perform the cleanup action on the Bentcik, FHWA, and IDL properties. Additionally, EPA will perform cleanup of the PLL property boundary transitions to safeguard against contamination of clean property. During 2013, Potlatch with EPA oversight will complete cleanup of its property.

Final project management, planning, design, and implementation activities are occurring in

anticipation of mobilizing to the Site on 29 May 2012. The project is expected to require 4 to 5 months to complete in 2012.

Planned Removal Actions

The selected removal action consists of engineering and institutional controls, the excavation of an estimated 90,000 cubic yards of clean overburden to be set aside for reuse as backfill material, the excavation and off-Site disposal of an estimated 50,000 cubic yards of soil contaminated with hazardous substances and oil, importation of an estimated 50,000 cubic yards of clean structural material for use as backfill material, removal of an existing treatment/recovery system and debris, removal and reconstruction of a segment of Highway 50, removal and reconstruction of a segment of the St. Joe River bank, implementation of construction and greener cleanup best management practices, and long-term monitoring and maintenance.

For approximately the first two weeks, the initial Site activities will focus on the establishment of the Site operations area, including infrastructure, roadways, water treatment system, soil stockpile and dewatering areas, and truck staging areas.

Next Steps

Once the Site operations area is established, the next steps will consist of the excavation of clean overburden and construction of several test pits to better understand Site subsurface conditions.

The next POLREP will be submitted on or about 18 June 2012.

Key Issues

Funding is provided by EPA $3,162,500, FHWA $3,000,000, and PLL $1,750,000 (or $7,912,500).

www.epaosc.org/AveryLanding

United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Saturday, June 09, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Avery Landing
Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	2	**Site #:**	IDD984666313
Reporting Period:	5/29/12 - 6/9/12	**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:	9/28/2012	**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
Refer to POLREP No. 1 for a discussion of Site conditions and background.

Current Activities
Activities during the first two weeks (05/29/12 – 06/09/12) focused on establishing an efficient Site infrastructure and included:
• Preparing the Site including grading and leveling the office complex pad, the groundwater and surface water treatment system pad, and equipment and material laydown and staging areas, removing limited vegetation, and removing interfering surface debris and structures such as an aboveground storage tank and storage shed.

• Receiving and inspecting heavy and lesser equipment and supplies for contract, function, and safety assurance.

• Setting up the field office complex including office and storage trailers, communications, conex containers, hygiene, recycling, and sanitary accommodations, and Site-wide security.

• Constructing an internal roadway system.

• Constructing three on-Site 40’ x 200‘ contaminated soil containment cells for dewatering and interim storage of contaminated soil pending analysis and off-Site disposal.

• Constructing an approximate 1000’ temporary bypass roadway and ramps for use during cleanup of Highway 50.

• Assembling the groundwater and surface water treatment system to treat groundwater flowing into open excavations. The system consists of one 20,000-gallon weir tank, three 250-gallon oil/ water separators, three 20,000-gallon settling tanks, four 100-gallon sand filter tanks, eight 20-gallon sock filters, two 5,000-pound granular activated carbon tanks, ten 20,000 effluent holding tanks, and a discharge diffuser.

• Selecting and installing general construction best management practices (BMPs) including general site BMPs (e.g., stabilization of Site entrances and exits, staging areas, preservation of existing vegetation, vehicle wheel wash device, etc.); housekeeping BMPs (e.g., spill prevention and control, stockpile management , vehicle/equipment maintenance, refueling, and storage, waste management, etc.); and stormwater and sediment BMPs (e.g., silt fence, check dams, etc.) best management practices (BMPs).

• Performing Site-wide soil baseline sampling and routine daily surface water quality field parameters monitoring. Surface water quality monitoring will occur at upgradient and downgradient locations, as well as at two mid-gradient locations where small streams flow through the Site.

• Constructing several test pits to better understand the subsurface soil profile; to develop waste acceptance criteria for decontamination and/or disposal of large subsurface debris such as concrete and boulders; to collect soil samples to evaluate the effectiveness of the proposed field screening methods to be used to determine the extent of excavation; and to evaluate the effectiveness of the water treatment system. Groundwater was encountered at approximately 10’ below ground surface. Several test pits were abandoned because large subsurface debris (i.e., concrete) was encountered. A suspected petroleum-type odor, suspected petroleum sheen, and suspected petroleum product was observed in two test pits, and one test pit (refer to photograph) showed 2.7 ppm using a field MultiRAE instrument.

• Reviewing and approving Highway 50 subcontractor preconstruction submittals such as work schedule, plans and specifications, cost estimates, health and safety, and other deliverables which require approval before the subcontractor can be mobilized to the Site.

• Establishing and confirming functional baseline project accounting and auditing arrangements and requirements for EPA, START, and ERRS due to multiple parties, settlement agreements, and funding mechanisms.

• Conducting daily tailgate safety sessions discussing the project, potential hazards, required safety equipment, spill prevention and control BMPs, and anything else personnel should know.

• Personnel on-Site: EPA – 1; START – 2; ERRS – 16.

Planned Removal Actions

• Implementation of traffic control along the temporary bypass roadway.

• Conduct pre-construction meeting with Highway 50 contractor (06/15/12).

• FHWA (refers to property owned by the Federal Highway Administration): begin removal and excavation of an estimated 600 feet of Forest Highway 50, including removal and recycling of asphalt material, removal of clean overburden material, excavation of contaminated material (to a maximum depth of 20’), and temporary stockpiling of the contaminated material in the containment cells pending analytical results for off-Site disposal.

• Bentcik (refers to property owned by Larry & Margie Bentcik): begin removal of clean overburden material, excavation of contaminated material (to a maximum depth of 20') and temporary stockpiling of the contaminated material in the containment cells pending analytical results for off-Site disposal.

• Bentcik/Potlatch and FHWA/Potlatch Transition Areas (transition areas are those areas adjacent to property boundaries, and Potlatch refers to property owned by Potlatch Land and Lumber): begin removal of clean overburden material, excavation of contaminated material (to a maximum depth of 20'), and temporary stockpiling of the contaminated material in the containment cells pending analytical results for off-Site disposal.

• Continue to tweak the water treatment system to ensure it meets the required water quality discharge parameters.

• Continue to evaluate waste acceptance criteria for decontamination and/or disposal of large subsurface debris such as concrete and boulders, and the effectiveness of the proposed field screening methods to be used to determine the extent of excavation.

• Conduct community "open house" to familiarize the local community with cleanup activities and schedule (06/13/12).

• Ongoing maintenance and evaluation of BMPs; and

• Ongoing routine air quality and surface water quality monitoring.

Next Steps
The next POLREP will be submitted on or about 23 June 2012, and thereafter on a approximate bi-weekly schedule.

Key Issues
None.

www.epaosc.org/AveryLanding

United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Saturday, June 23, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	3	**Site #:**	IDD984666313
Reporting Period:		**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:	9/28/2012	**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
Refer to POLREP No. 1 for a discussion of Site conditions and background.

Current Activities
Site removal activities from 06/10/12 through 06/23/12 included:
• Completed construction of the three contaminated soil containment cells.

• Developed the following field screening procedure for the removal of contamination to the "maximum extent practicable," which is based on available information and best professional judgment that considers Site-specific conditions and field measurements. From approximately 0 to 10 feet below ground surface, the subsurface soil is considered not contaminated and can be set aside as clean overburden and reused as backfill material. Beginning at approximately 10 feet below ground surface, the subsurface soil is considered contaminated and this soil will be excavated to an average depth of 20 feet which is deeper than the prior estimate of 17 feet. The excavated soil will be transported to the on-Site contaminated soil containment cells where the soil will be dewatered, sampled, and later transported off-Site for disposal. The soil will be excavated in approximate 5-foot lifts to allow for field observation/measurements and verification of the assumed depths of clean material and contaminated material. The effectiveness of the field measurements and the field screening procedure will be evaluated throughout the removal process and will be revised, if appropriate.

• Conducted an "open house" meeting (06/13/12) to familiarize the local community with project cleanup activities and schedule. For about one hour, project staff provided an overview of the project and responded to a variety of questions including those related to EPA cleanup activities in the Silver Valley and the 03/12 Supreme Court Sackett v. EPA decision.

• Conducted the Forest Highway 50 pre-construction meeting (06/15/12) with MDM Construction, Inc., prime contractor located in Hayden Lake, ID. Subcontractors include Poe Asphalt Paving, Inc., Lewiston, ID (asphalt paving); Pugh Brothers Construction, Inc., St. Maries, ID (select borrow, select borrow rock, and road aggregate); AllWest Testing and Engineering, Inc., Hayden, ID (field analytical services), and North Engineering, Post Falls, ID (surveying). Site mobilization is scheduled to begin the week of 07/02/12 and highway reconstruction is scheduled to begin the week of 07/09/12.

• FHWA: As of 06/23/12, beginning at the upgradient portion of the LNAPL plume area and over a distance of 520 feet, approximately 286 cubic yards (yds3) of asphalt has been removed from Forest Highway 50 and transported off-Site for recycling at Busy Bee Recycling, Inc., Spokane, WA; approximately 550 yd3 of base course and 8,576 yds3 of clean overburden material was excavated and set aside on-Site for reuse; and approximately 2,486 yds3 of contaminated material was placed in the on-Site contaminated soil containment cells to dewater and to be sampled for off-Site disposal. The area in proximity of the former 500,000 gallon AST and other historic features labeled oil bin, oil sinks, and oil tank is heavily contaminated with diesel and heavier fuel oil, both as free or separate phase product and as residual phase product adsorbed onto soil particles. Groundwater was encountered about 10 feet below ground surface, and the excavation extended about 22 feet below ground surface in some sub-areas. Because so much groundwater was flowing into the excavation, absorbent materials and a larger water pump were placed in the bottom of the excavation to prevent the recontamination of excavated areas and to control for the "bathtub ring" effect associated with oil floating on water. Several historic oil and steam lines leading from the former 500,000 AST about 6 feet below the ground surface were encountered.

The Potlatch Free Product Recovery System (FPRS) infiltration trench was discovered within the Highway 50 upslope roadside ditch about 7 feet below ground surface. Two 3-inch PVC pipes were found within the trench. According to a 12/23/94 HartCrowser construction report, the trench crosses beneath the highway near the Potlatch/Bentcik property boundary, and then runs west ending near the location of the former 500,000 gallon AST. The pipes are referred to as carrier and infiltration piping. The full length and width the infiltration trench was visibly contaminated with petroleum product where the carrier piping and infiltration piping were installed parallel to each other.

• FHWA/Bentcik Transition Area: As of 06/23/12, over a distance of 300 feet approximately feet 1,958 yds3 of clean overburden material was excavated from the FHWA/Bentcik transition area and set aside for reuse, and approximately 1,012 yds3 of contaminated material was placed in the on-Site contaminated soil containment cells to dewater and to be sampled for off-Site disposal. Observations of free product and residual petroleum product for this area are the same as for the adjacent FHWA area.

• Completed installation of the temporary stream bypass which will enable advancing the excavation further into the upgradient (eastern) portion of the LNAPL plume area.

• Approximately 3,928 yds3 of excess mineral material (i.e., unconsolidated rock and soil slope and slide materials removed from roadways during maintenance activities) was excavated from the Moon Pass Road for use on-Site.

• Start-up of the temporary water treatment system was completed. To date, approximately 446,700 gallons of contaminated groundwater has been treated and discharged to the St. Joe River beginning 06/20. Effluent samples were collected after treating approximately 18,300 gallons (06/14), 37,000 gallons (06/15), and 63,200 gallons (06/16) of groundwater pumped from the initial

excavation area. The samples were analyzed for selected semi-volatile organic compounds, selected target analyte list metals, and total PCBs. None of the required water quality discharge parameters were exceeded. Operational samples will be collected and analyzed for the contaminants of concern on a periodic basis. Began water treatment system night operations on 06/20 because groundwater was flowing into the excavation areas and was saturating the contaminated materials, thus complicating the handling of materials in the contaminated soil containment cells.

• Ongoing maintenance of the temporary bypass roadway.

• Ongoing maintenance and evaluation of general construction BMPs, including site, housekeeping, and stormwater and sediment BMPs.

• Ongoing daily air quality monitoring (weather permitting) at three locations (using a DataRAM4 Model DR-400); VOC monitoring at the excavation and contaminated soil containment cell area (using a MultiRae Plus PID gas detector); and surface water quality monitoring at four locations (using a Horiba Instruments, LTD., Water Quality Checker U-52). The DataRam measures airborne particulate matter, particle size, air temperature, and humidity. The Horiba simultaneously measures the following water quality parameters in aqueous samples: pH, conductivity, turbidity, dissolved oxygen, temperature, oxidation reduction potential, total dissolved solids, and salinity. To date, there have been no exceedances of applicable air and surface water regulatory criteria.

• Ongoing daily tailgate safety sessions discussing the project, potential hazards, required safety equipment, spill prevention and control BMPs, and anything else personnel should know.

• Dismantled the Potlatch 500-gallon AST in preparation for off-Site recycling.

• At the request of the FHWA, snow was removed from Gold Summit Pass to enable the FHWA to gain access to that portion of Forest Highway 50 where other road reconstruction work will occur this summer (MP 76 to MP 88.5).

• Personnel on-Site: EPA – 1; START – 2; ERRS – 18.

Planned Removal Actions

• Start off-Site transportation and disposal of contaminated materials on or about 06/27/12. Transportation will be provided by R Transport, Inc., George, WA, and the contaminated materials will be disposed of at the Waste Management Graham Road Recycling and Disposal Facility, Medical Lake, WA.

• Mobilization of the Highway 50 roadway reconstruction contractor to the Site.

• Continue excavation of the upgradient (eastern) portion of the LNAPL plume, then advance toward the western portion of the plume to continue excavating clean overburden and contaminated soil from the FHWA property and FHWA/Bentcik transition area, and begin activities on the FHWA/Potlatch transition area.

• Ongoing operation of the water treatment system to ensure it meets the required water quality discharge parameters.

• Ongoing maintenance and evaluation of BMPs.

• Ongoing routine air quality and surface water quality monitoring.

Next Steps

The next POLREP will be submitted on or about 7 July 2012, and thereafter on a approximate bi-weekly schedule.

Key Issues

• Above average precipitation has caused minor schedule delays. For several days, placing contaminated material into a contaminated soil containment cell was delayed or temporarily suspended because the material was too wet. Additionally, each cell is designed to hold 5,000 yds3 of material, but only about 3,000 yds3 of material could be placed in each cell because the material moisture content caused the stockpiled material to be difficult to handle. A daily temporary 12-mil reinforced polyethylene cover is now placed over the cells to prevent rainfall from entering the cells.

• During off-hours, project personnel witnessed an ATV accident and rendered first aid for more than an hour pending arrival of medical personnel. The injured person was air-lifted to Spokane, WA for medical care.

www.epaosc.org/AveryLanding

United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Monday, July 09, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	4	**Site #:**	IDD984666313
Reporting Period:		**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:	9/28/2012	**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
Refer to POLREP No. 1 for a discussion of Site conditions and background.

Current Activities
Site removal activities from 06/24/12 through 07/07/12 included:

• Completed excavation of the eastern portion of the LNAPL plume area (approximately 10,000 square feet) to an approximate depth of 20 feet below ground surface, a depth EPA determined to be acceptable for the removal of contaminated materials. Collected post-excavation soil samples from the bottom and north and east sidewalls of the excavation and submitted the samples for analysis as required by the FHWA 2012 Removal Action Work Plan. Continued excavation of the LNAPL plume from the Forest Highway 50 ROW (advancing toward the western portion of the plume) and transition areas, and continued evaluation of the effectiveness of field screening methods to determine the extent of excavation. Generally, the soil profile from approximately 0 to 10 feet below ground surface is considered not contamination and from approximately 10 feet to 20 feet below ground surface the subsurface soil is considered contaminated. Several test pits were excavated to guide the excavation effort. The soil profile described above was encountered in each test pit. Bunker C was encountered as free product near MW-11. Groundwater is consistently encountered at approximately 10 feet below ground surface.

• FHWA: As of 07/06/12, approximately 10,758 yd3 of clean overburden material has been excavated and set aside for reuse, and approximately 8,030 yds3 of contaminated material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• FHWA/Bentcik Transition Area: As of 07/06/12, approximately 3,278 yd3 of clean overburden material has been excavated and set aside for reuse, and approximately 1,232 yds3 of contaminated

material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• FHWA/Potlatch Transition Area: As of 07/06/12, approximately 726 yd3 of clean overburden material has been excavated and set aside for reuse.

• On 06/20/12, soil samples were collected from the contaminated soil stockpile for expedited analytical testing to complete the waste disposal profile. Per Waste Management's requirements, 10 samples were collected from the first 2,000 cubic yards of contaminated soil and analyzed at an off-Site laboratory for polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), and Toxicity Characteristic Leaching Procedure (TCLP) metals. The results indicated that all PCBs and VOCs were non-detect in all samples, and only a few TCLP metals were present at very low concentrations and well below regulatory limits. The results of the SVOC analyses indicated the presence of a few polycyclic aromatic hydrocarbons (PAHs) at concentrations less than 1 milligram per kilogram (mg/kg), which was expected considering the nature of the waste material (i.e., petroleum-contaminated soil). Overall, the results for the contaminated soil were as expected and the disposal facility confirmed that the waste was appropriate for their facility. Additionally, the disposal facility agreed that for future contaminated soil stockpile samples (at a rate of one per 5,000 yd3), only PCB and SVOC analyses were necessary and the VOCs and TCLP metals could be discontinued.

• Received the Site Cultural Resources Pedestrian Survey Report prepared by Applied Archaeological Research, Inc. (AAR). AAR recommends that a cultural resource monitor observe any earthmoving or other ground-disturbing activities occurring in close proximity of five Features. The purpose of monitoring would be to ensure that potentially significant archaeological resources are not damaged or destroyed during cleanup activities.

• Started off-Site transportation and disposal of contaminated materials on 07/05/12. As of 07/06/12, approximately 418 tons of contaminated materials have been shipped off-Site. Transportation is provided by R Transport, Inc., George, WA, and the contaminated materials are being disposed of at the Waste Management Graham Road Recycling and Disposal Facility, Medical Lake, WA.

• Ongoing operation of the temporary water treatment system. As of 07/06/12, approximately 1,982,200 gallons of contaminated groundwater has been treated and discharged to the St. Joe River. Operational (effluent) samples were collected on 06/26/12 and 07/05/12 and were analyzed for the parameters of concern. Results have not yet been received. Five of the ten 20,000 gallon effluent holding tanks are being demobilized since the water treatment system has proven effective at achieving the discharge criteria.

• Ongoing maintenance of the temporary bypass roadway.

• Ongoing maintenance and evaluation of general construction BMPs.

• Ongoing daily routine air quality at three varying locations and surface water quality monitoring at four locations. To date, there have been no exceedances of applicable air and surface water regulatory criteria.

• Ongoing daily tailgate safety sessions discussing the project, potential hazards, required safety equipment, spill prevention and control BMPs, and anything else personnel should know.

• Continued evaluation of functional baseline project accounting and auditing arrangements and requirements for EPA, START, and ERRS due to multiple parties, settlement agreements, and funding mechanisms.

• Personnel on-Site: EPA – 1; START – 1; ERRS – 18.

Planned Removal Actions

• Continue excavation of the LNAPL plume from the Forest Highway 50 road prism (advancing toward the western portion of the plume) and transition areas, and continue to evaluate the effectiveness of field screening methods to determine the extent of excavation.

• Begin reconstruction of Forest Highway 50 on 07/09/12.

• Ongoing operation of the temporary water treatment system to ensure it meets the required water quality discharge parameters.

• Ongoing maintenance and evaluation of BMPs.

• Ongoing routine air quality and surface water quality monitoring.

Next Steps

The next POLREP will be submitted on or about 21 July 2012, and thereafter on a approximate bi-weekly schedule.

Key Issues

Coordination of excavation and road building activities, particularly given the necessary sequence and dependency of cleanup and roadbuilding activities, presence of multiple contractors, and Site physical constraints.

www.epaosc.org/AveryLanding

United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Saturday, July 21, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	5	**Site #:**	IDD984666313
Reporting Period:		**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:	9/28/2012	**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
Refer to POLREP No. 1 for a discussion of Site conditions and background.

Current Activities
Site removal activities from 07/08/12 through 07/21/12 included:

• Continued excavation of the LNAPL plume and transition areas advancing from east to the west. The bottom of the excavation in the central portion of the plume was approximately 17 feet below ground surface, while the bottom of the excavation in the western portion of the plume was approximately 13 feet below ground surface; both depths EPA determined to be acceptable for the removal of contaminated materials. The western soil profile showed varying depths of subsurface contamination (e.g., 0 to 3 feet clean, 3 feet to 6 feet contaminated, 6 feet to 10 feet clean, and 10 feet to 13 feet contaminated), as opposed to the previous soil profile of 0 to 10 feet clean and 10 to 20 feet contaminated. Additionally, the western most boundary of the plume was determined, thus no further excavation on the FHWA ROW is planned beyond the existing boundary (however, not all contaminated material has been removed). Collected four additional post-excavation soil samples from the central and bottom west and east sidewalls of the excavation and submitted the samples for analysis as required by the FHWA 2012 Removal Action Work Plan. No additional samples are anticipated. Depth to groundwater is consistently encountered at approximately 10 feet below ground surface.

Several large subsurface concrete foundations were encountered at the Bentcik/Potlatch property boundary and as a result an excavator with hydraulic breaker attachment was mobilized to the Site to remove the foundations. Residual quantities of petroleum product, principally diesel, was encountered within and surrounding the foundations. Several lengths of approximate 5-inch diameter absorbent boom were found buried several feet below ground surface west of the former

boiler house concrete foundation. The absorbent material was visibly stained with petroleum product and a petroleum odor was detected.

• On 07/09/12, the Forest Highway 50 prime construction contractor MDM Construction, Inc. arrived on-Site and began reconstructing the highway. MDM's backfilling activity closely follows EQM's excavation activity. As of 07/20/2012, approximately 11,491 tons of select borrow rock has been delivered and placed. This amount equates to 45 to 60 30-ton trucks with trailers per day (5 days per week) for a total of 383 trucks to date.

• FHWA ROW: As of 07/20/12, approximately 220 cubic yards (yd3) of asphalt has been transported off-Site for recycling; 13,948 yd3 of clean overburden has been excavated and set aside for reuse, and 11,913 yd3 of contaminated material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• FHWA/Bentcik Transition Area: As of 07/20/12, approximately 3938 yd3 of clean overburden has been excavated and set aside for reuse, and 1,064 yd3 of contaminated material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• FHWA/Potlatch Transition Area: As of 07/20/12, approximately 1,936 yd3 of clean overburden has been excavated and set aside for reuse, and 969 yd3 of contaminated material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• As of 07/19/12, approximately 9,090 tons of contaminated materials have been shipped off-Site for disposal at the Waste Management Graham Road Recycling and Disposal Facility, Medical Lake, WA. This quantity of contaminated material equates to 35 to 40 30-ton trucks with trailers per day (5 days per week) for a total of 303 trucks to date (which is in addition to the highway reconstruction effort).

• Relocated the 1000-foot temporary bypass roadway on-Site to enable cleanup activities to begin on the Bentcik property and the St. Joe River bank.

• Started removal of clean overburden and riprap from approximately 400 feet of the St. Joe River bank along the Bentcik/IDL and Potlatch/IDL property boundaries in preparation for installation of the temporary cofferdam the week of 07/23/12. The temporary dam, which is water-inflated and produced from heavy gauge polyvinyl chloride reinforced with polyester, will be used for water management associated with cleanup activities adjacent to the environmentally sensitive St. Joe River bank. Encountered several large subsurface concrete foundation likely associated with maintenance bays. Several product discharges (seeps) were observed in and among the riprap along this segment of the riverbank, and petroleum stained vegetation and sheen was periodically observed along the same segment. Removed the instream subsurface wooden feature which proved to be only a wooden mat attached to the stream bed by long metal pins.

• Dismantled the temporary stream bypass located on the eastern portion of the plume area because it was no longer needed.

• Ongoing operation of the temporary water treatment system. To date, approximately 4,620,700 gallons of contaminated groundwater has been treated. Of this amount, approximately 3,678,600 gallons has been discharged to the St. Joe River while 942,100 gallons has been used on-Site for dust suppression. Operational (effluent) samples were collected on 07/05/12 and were analyzed for the parameters of concern. None of the required water quality discharge parameters were exceeded. Operational samples will be collected and analyzed for the contaminants of concern on

an estimated weekly basis.

• Ongoing maintenance and evaluation of general construction BMPs.

• Ongoing daily routine air quality monitoring at three varying locations and surface water quality monitoring at three locations. To date, there have been no exceedances of applicable air and surface water regulatory criteria.

• Ongoing daily tailgate safety sessions discussing the project, potential hazards, required safety equipment, spill prevention and control BMPs, and anything else personnel should know. Additionally, a site health and safety audit was conducted by EPA R10 personnel.

• Continued evaluation of functional baseline project accounting and auditing arrangements and requirements for EPA, START, and ERRS due to multiple parties, settlement agreements, and funding mechanisms.

• Personnel on-Site: EPA – 1; START – 2; ERRS – 22; MDM – 3; TrafficCorp - 2.

Planned Removal Actions

• Complete excavation of the FS Highway ROW, and continue reconstruction of the highway.

• Installation of temporary cofferdam and begin excavation of contaminated material from the St. Joe River bank.

• Ongoing off-Site transportation and disposal of contaminated materials.

• Begin excavation of the Bentcik property.

• Continue to tweak the water treatment system to ensure it meets the required water quality discharge parameters.

• Continue to evaluate waste acceptance criteria for decontamination and/or disposal of large subsurface debris such as concrete and boulders, and the effectiveness of the proposed field screening methods to be used to determine the extent of excavation.

• Ongoing maintenance and evaluation of BMPs.

• Ongoing routine air quality and surface water quality monitoring.

Next Steps

The next POLREP will be submitted on or about 4 August 2012, and thereafter on a approximate bi-weekly schedule.

Key Issues

• Determine the extent of contamination associated with the St. Joe River bank.

• Suspended Friday (07/20/12) afternoon delivery of road building materials due to safety concerns for weekend recreational vehicle traffic along the highway and through the Site.

www.epaosc.org/AveryLanding

United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Monday, August 06, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	6	**Site #:**	IDD984666313
Reporting Period:	07/23/2012 - 08/04/2012	**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:	9/28/2012	**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
Refer to POLREP No. 1 for a discussion of Site conditions and background.

Current Activities
Site removal activities from 07/23/12 through 08/04/12 included:

• Continued excavation of clean overburden from the Bentcik property and the Bentcik/IDL and Potlatch/IDL transition areas. Started excavation of the LNAPL plume from the Bentcik property and Bentcik/IDL and Bentcik/Potlatch transition areas. Based on field screening, from approximately 0 to 10 feet below ground surface the subsurface soil was considered not contaminated, and from 10 to 20 feet the subsurface soil was considered contaminated.

Encountered significant amount of product in the vicinity of the extraction trenches and recovery wells installed as part of the 1994 Free Product Recovery System (FPRS) and the impermeable vertical wall and collection wells installed as part of the 2000 Corrective Action (CA)
. Encountered varying sizes and lengths of demolition debris, including concrete, metal, pipe, and asbestos-cement pipe buried in or in close proximity to the extraction trenches installed as part of the 1994 FPRS and 2000 CA.

• Installed approximately 415 feet of temporary cofferdam along the St. Joe River bank. The cofferdam extends approximately 200 feet along the portion of the bank adjacent to the Bentcik property and approximately 200 feet along the portion of the bank adjacent to Potlatch property. Once work was started along the riverbank, particularly in and among the riprap, a greater number of product discharges and sheen were observed likely because the riprap, along with product dispersion and dilution, prevented prior observations of the discharges and sheen.

• FHWA ROW: All cleanup activities have been completed. The final approximate quantities are: 210 cubic yards (yd3) of asphalt has been transported off-Site for recycling; 14,586 yd3 of clean overburden has been excavated and set aside for reuse, and 13,319 yd3 (or 19,327 tons) of contaminated material has been excavated and transported off-Site for disposal.

• FHWA/Bentcik Transition Area: Approximately 3938 yd3 of clean overburden has been excavated and set aside for reuse, and 1,064 yd3 of contaminated material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• FHWA/Potlatch Transition Area: Approximately 1,936 yd3 of clean overburden has been excavated and set aside for reuse, and 969 yd3 of contaminated material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• IDL/Bentcik Transition Area: Approximately 726 yd3 of riprap and 3,102 yd3 of clean overburden has been excavated and set aside for reuse, and 3,401 yd3 of contaminated material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• IDL/Potlatch Transition Area: Approximately 396 yd3 of riprap and 2,354 yd3 of clean overburden has been excavated and set aside for reuse, and 1,216 yd3 of contaminated material has been excavated and placed in the on-Site contaminated soil containment cells pending off-Site disposal.

• As of 08/04/12, approximately 19,327 tons of contaminated materials have been shipped off-Site for disposal at the Waste Management Graham Road Recycling and Disposal Facility, Medical Lake, WA. This quantity of contaminated material equates to 35 to 40 30-ton trucks with trailers per day for a total of 644 trucks to date (which is in addition to the highway reconstruction effort).

• Ongoing operation of the temporary water treatment system. To date, approximately 7,505,700 gallons of contaminated groundwater has been treated. Of this amount, approximately 5,938,900 gallons has been discharged to the St. Joe River while the remaining gallons have been used on-Site for dust suppression. Operational (effluent) samples were collected on 07/05/12, 07/11/12, and 07/18/12 were analyzed for the parameters of concern. None of the required water quality discharge parameters were exceeded. Operational samples will be collected and analyzed for the contaminants of concern on an estimated weekly basis.

• Ongoing maintenance and evaluation of general construction BMPs. To date, there have been no exceedances of surface water quality measured field parameters.

• Ongoing daily routine air quality monitoring at three varying locations and surface water quality monitoring at three locations. To date, there have been no exceedances of applicable air and surface water regulatory criteria.

• Ongoing daily tailgate safety sessions discussing the project, potential hazards, required safety equipment, spill prevention and control BMPs, and anything else personnel should know.

• Continued evaluation of functional baseline project accounting and auditing arrangements and requirements for EPA, START, and ERRS due to multiple parties, settlement agreements, and funding mechanisms.

• Personnel on-Site: EPA – 1; START – 1; ERRS – 17; MDM – 3.

Planned Removal Actions

• Complete reconstruction of the highway (except for paving); return traffic to highway use; deconstruct the temporary bypass roadway.

• Complete the river bank work and deconstruct the cofferdam.

• Ongoing off-Site transportation and disposal of contaminated materials.

• Continue to monitor the water treatment system to ensure it meets the required water quality discharge parameters.

• Continue to evaluate waste acceptance criteria for decontamination and/or disposal of large subsurface debris such as concrete and boulders, and the effectiveness of the proposed field screening methods to be used to determine the extent of excavation.

• Ongoing maintenance and evaluation of BMPs.

• Ongoing routine air quality and surface water quality monitoring.

Next Steps

The next POLREP will be submitted on or about 18 August 2012, and thereafter on a approximate bi-weekly schedule.

Key Issues

Suspended Friday (08/03/12) afternoon delivery of road building materials due to safety concerns for weekend recreational vehicle traffic along the highway and through the SIte.

Disposition of Wastes

Approximately 210 yd3 of asphalt and 15,770 pounds of metal has been transported off-Site for recycling, and approximately 19,327 tons of contaminated materials has been transported off-Site for disposal.

www.epaosc.org/AveryLanding

United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Monday, August 20, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	7	**Site #:**	IDD984666313
Reporting Period:		**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:	9/28/2012	**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
Refer to POLREP No. 1 for a discussion of Site conditions and background.

Current Activities
Site removal activities from 08/05/12 through 08/18/12 included:

• Continued excavation of clean overburden from the Bentcik property and the Bentcik/IDL transition area. Continued excavation of the LNAPL plume from the Bentcik property. Completed excavation of clean overburden and contaminated material from the Potlatch/IDL transition area. Started placing clean overburden material in the Bentcik/IDL, Potlatch/IDL and FHWA/ Potlatch transition areas.

Continued to encounter a significant amount of product in vicinity of the 1994 Free Product Recovery System (FPRS) extraction trenches and recovery wells and the 2000 Corrective Action (CA) impermeable vertical wall and collection wells. Continued to encounter varying sizes and lengths of demolition debris, including concrete, metal, pipe, and asbestos-cement pipe buried wherever excavations are occurring.

• Completed excavation of approximately 414 feet of the St. Joe River bank. Deconstructed the temporary cofferdam, and started rebuilding the bank in the transition areas described above. Excavation of the riverbank adjacent to the Potlatch property was stopped east of FPRS Extraction Well 1 because of space limitations associated with being in close proximity to the water treatment system. Based on field observations, the contamination extends along the FPRS extraction trench and possibly the CA impermeable liner.

• As of 08/17/12, 33,013 tons of contaminated materials have been shipped off-Site for disposal at

the Waste Management Graham Road Recycling and Disposal Facility, Medical Lake, WA.

• Ongoing operation of the temporary water treatment system. As of 08/17/12, approximately 10,680,800 gallons of contaminated groundwater has been treated. Of this amount, approximately 8,568,200 gallons has been discharged to the St. Joe River while 1,867,500 gallons has been used on-Site for dust suppression. Operational (effluent) samples are collected and analyzed for the contaminants of concern on an approximate weekly basis.

• Ongoing maintenance and evaluation of general construction BMPs. To date, there have been no exceedances of surface water quality measured field parameters.

• Ongoing daily routine air quality monitoring at three varying locations and surface water quality monitoring at three locations. To date, there have been no exceedances of applicable air and surface water regulatory criteria.

• Ongoing daily tailgate safety sessions discussing the project, potential hazards, required safety equipment, spill prevention and control BMPs, and anything else personnel should know.

• Continued evaluation of functional baseline project accounting and auditing arrangements and requirements for EPA, START, and ERRS due to multiple parties, settlement agreements, and funding mechanisms.

• Personnel on-Site: EPA – 1; START – 1; ERRS – 16.

Planned Removal Actions

• Continue to reconstruct the St. Joe river bank.

• Ongoing off-Site transportation and disposal of contaminated materials.

• Continue to monitor the water treatment system to ensure it meets the required water quality discharge parameters.

• Continue to evaluate waste acceptance criteria for decontamination and/or disposal of large subsurface debris such as concrete and boulders, and the effectiveness of the proposed field screening methods to be used to determine the extent of excavation.

• Ongoing maintenance and evaluation of BMPs.

• Ongoing routine air quality and surface water quality monitoring.

Next Steps

The next POLREP will be submitted on or about 1 September 2012, and thereafter on a approximate bi-weekly schedule.

Key Issues

• The extent of contamination is greater than estimated. Originally, 32,000 tons of contaminated material was estimated to require excavation and off-Site disposal. The estimated amount is now 45,000 tons.

• Based on conversations with Potlatch and its contractors, the three contaminated material containment cells and the mid-Site ingress/egress ramp will be left in place for use during the 2013

cleanup activities. Additionally, whatever amount of clean overburden material that is not used during 2012 will be left on-Site for future use.

Disposition of Wastes

Approximately 210 yd3 of asphalt and 15,770 pounds of metal has been transported off-Site for recycling, and approximately 33,013 tons of contaminated materials has been transported off-Site for disposal.

www.epaosc.org/AveryLanding

United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Saturday, September 08, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	8	**Site #:**	IDD984666313
Reporting Period:		**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:	9/28/2012	**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
Refer to POLREP No. 1 for a discussion of Site conditions and background.

Current Activities
Site removal activities from 08/19/12 through 09/08/12 included:
• Continued excavation of clean overburden from the Bentcik property and the Bentcik/IDL and the Potlatch/Bentcik transition areas. Continued excavation of the LNAPL plume from the Bentcik property, and the Bentcik/IDL and the Potlatch/IDL transition areas. Continued placement of clean overburden material on the Bentcik property and on the Bentcik/IDL and the Potlatch/IDL transition areas.

Continued to encounter a significant amount of product in vicinity of the 1994 Free Product Recovery System extraction trenches and recovery wells and the 2000 Corrective Action impermeable vertical wall and collection wells. Continued to encounter varying sizes and lengths of buried demolition debris, including concrete, metal, and pipe wherever excavation is occurring. Additionally, encountered subsurface rebar reinforced concrete foundations as the excavation progressed west toward the Bentcik/Potlatch property boundary.

Resumed excavation of excess mineral material from the Moon Pass Road for use on-Site as clean backfill material.

• Approximately 27,170 yd3 of clean overburden material has been removed, and approximately 38,267 yd3 of contaminated material has been removed. Of these amounts, 5,434 yd3 of clean overburden and 16,664 yd3 of contaminated materials was removed from the Bentcik property; 3,102 yd3 of clean overburden and 3,401 yd3 of contaminated material was removed from the Bentcik/IDL transition area; 14,234 yd3 of clean overburden and 13,671 yd3 of contaminated

material was removed from the FHWA property; 1,936 yd3 of clean overburden and 969 yd3 of contaminated material was removed from the Potlatch/FHWA transition area; and 2,728 yd3 of clean overburden and 3,914 yd3 of contaminated material was removed from the Potlatch/IDL transition area.

• Continued reconstruction of the St. Joe River bank in the Bentcik/IDL and the Potlatch/IDL transition areas.

• Approximately 47,701 tons of contaminated material has been shipped off-Site for disposal at the Waste Management Graham Road Recycling and Disposal Facility, Medical Lake, WA. Of this amount, 16,161 tons were excavated from the Bentcik property, 4,991 tons were excavated from the Bentcik/IDL transition area, 19,457 tons were excavated from the FHWA ROW, 1,432 tons were excavated from the Potlatch/FHWA transition area, and 5,660 tons were excavated from the Potlatch/IDL transition area.

• Ongoing operation of the temporary water treatment system. Approximately 14,224,900 gallons of contaminated groundwater has been treated. Of this amount, approximately 11,643,400 gallons has been discharged to the St. Joe River while 2,385,000 gallons has been used on-Site for dust suppression. Ongoing demobilization of treatment system components no longer needed, including three oil/water separators and eight 20,000 gallon effluent holding tanks, including decontamination of the components and ancillary equipment such as hoses and small pumps. Started deconstruction of the treatment system crushed rock pad.

• Ongoing recycling of metal debris recovered from Site excavations. The debris includes buried underground storage tanks and long lengths of pipe which must be cut into smaller pieces for transport off-Site.

• Ongoing deconstruction of Site infrastructure such as an access ramp and demobilization of equipment and personnel no longer needed to support cleanup activities.

• Ongoing maintenance and evaluation of general construction BMPs. To date, there have been no exceedances of surface water quality measured field parameters.

• Ongoing daily routine air quality monitoring at three varying locations and surface water quality monitoring at three locations. To date, there have been no exceedances of applicable air and surface water regulatory criteria.

• Ongoing daily tailgate safety sessions discussing the project, potential hazards, required safety equipment, spill prevention and control BMPs, and anything else personnel should know.

• Personnel on-Site: EPA – 1; START – 1; ERRS – 16.

Planned Removal Actions

Completion of all removal activities on or about 29 September 2012, including the excavation of petroleum and hazardous substances contaminated soil and backfilling the excavation with clean material, reconstruction of the St. Joe River bank, and reconstruction of Highway 50. Final demobilization of equipment and personnel will be completed early to mid-October 2012.

Next Steps

The final POLREP will be completed early to mid-October 2012.

Key Issues

The extent of contamination is greater than estimated. Originally, 32,000 tons of contaminated material was estimated to be excavated and transported off-Site for disposal. The estimated amount is now approximately 60,000 tons.

Disposition of Wastes

Approximately 210 yd3 of asphalt and 58,136 pounds of metal have been transported off-Site for recycling, and approximately 47,701 tons of contaminated material has been transported off-Site for disposal.

www.epaosc.org/AveryLanding

United States Environmental Protection Agency
Region X
POLLUTION REPORT

Date: Tuesday, November 13, 2012
From: Earl Liverman, On-Scene Coordinator

Subject: Final
Avery Landing
State Highway 50, Avery, ID
Latitude: 47.2539000
Longitude: -115.8408000

POLREP No.:	9	**Site #:**	IDD984666313
Reporting Period:	10/16/12	**D.O. #:**	
Start Date:	5/29/2012	**Response Authority:**	CERCLA/OPA
Mob Date:	5/29/2012	**Response Type:**	Non-Time-Critical
Demob Date:	9/28/2012	**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:	IDD984666313	**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	
FPN#			

Site Description
Refer to POLREP No. 1 for a discussion of Site conditions and background.

Current Activities
• All planned 2012 EPA work was completed on 10/16/12. The following is a summary of cleanup activities:

- Approximately 15,254,600 gallons of contaminated groundwater was treated. Of this amount, approximately 12,582,500 gallons was discharged to the St. Joe River and 2,672,100 gallons was used on-Site for fugitive dust suppression and other Site-related activities.

- Approximately 160,067 pounds of scrap metal was recycled off-Site.

- Approximately 22,702 cubic yards (yds3) of clean overburden material was obtained from off-Site sources and was used on-Site as supplemental clean backfill material and to construct infrastructure features such as the contaminated material containment cells, equipment pads, by-pass roadway.

- Bentcik Property: approximately 5,434 yds3 of clean overburden material was removed and set aside for reuse as backfill material; 23,683 yds3 of contaminated material was excavated and transported off-Site for disposal; and 38,010 yds3 of clean backfill material was placed.

- Bentcik Property/Idaho Department of Lands Property: approximately 1,056 yds3 of clean riprap material was removed and set aside for reuse as riprap; 3,619 yds3 of clean overburden material was removed and set aside for reuse as backfill material; 3,328 yds3 of contaminated material was

excavated and transported off-Site for disposal; 2,178 yds3 of clean backfill material was placed; and 1,056 yds3 of clean riprap material was placed.

- FHWA Property: approximately 396 yds3 of asphalt was removed and recycled off-Site; 14,366 yds3 of clean overburden material was removed and set aside for reuse as backfill material and to maintain the Highway 50 by-pass roadway; and 13,327 yds3 of contaminated material was excavated and transported off-Site for disposal; 3,532 yds3 if clean backfill material was placed; and 21,817 yds3 of clean road-building material obtained from off-Site sources was placed to reconstruct the roadway and the roadway was paved.

- Potlatch/Bentcik Transition Area: approximately 1,210 yds3 of clean overburden material was removed and set aside for reuse as backfill material; 2,669 yds3 of contaminated material was excavated and transported off-Site for disposal; and 1,620 yds3 of clean backfill material was placed.

- Potlatch/Idaho Department of Lands Transition Area: approximately 616 yds3 of clean riprap material was removed and set aside for reuse as riprap; 3,289 yds3 of clean overburden material was removed and set aside for reuse as backfill material; 3,774 yds3 of contaminated material was excavated and transported off-Site for disposal; 5,632 yds3 of clean backfill material was placed; and 616 yds3 of clean riprap material was placed.

- Potlatch/FHWA Transition Area: approximately 726 yds3 of clean overburden material was removed and set aside for reuse as backfill material; 954yds3 of contaminated material was excavated and transported off-Site for disposal; and 1,452 yds3 of clean backfill material was placed.

Planned Removal Actions

No further cleanup actions are planned for 2012.

Next Steps

This POLREP is the final POLREP for 2012. Other POLREPS will be prepared when Potlatch returns to the Site during 2013 to complete cleanup of the portion of the Site owned by Potlatch.

Key Issues

Negotiate a settlement and project documents with Potlatch for work to be performed at the Ste during 2013.

Disposition of Wastes

Approximately 210 yd3 of asphalt and 58,136 pounds of metal have been transported off-Site for recycling, and approximately 47,701 tons of contaminated material has been transported off-Site for disposal.

www.epaosc.org/AveryLanding

$9.3 million cleanup of old Avery rail yard starts in May

By Summer Crosby | Posted: Tuesday, March 27, 2012 11:00 pm

A $9.3 million cleanup will start in May at a site located one mile west of Avery.

Thirty-five years after the Milwaukee Road railroad ceased operations, crews will remove contaminated soil from the 10-acre site, located in Shoshone County. The site is north of the St. Joe River and south of Highway 50.

From 1907 to 1977, the site was used as a switching and maintenance facility for the railroad. It was located at the end of the electric rail line. The facility included a turntable, roundhouse, machine shop, fan house, engine house, boiler house, storehouses, coal dock, oil tanks and pump house.

"There were various operations at the site including switching rail cars around, refueling trains and performing maintenance work," Earl Liverman, EPA on-scene coordinator, said. "We believe it was the result of that type of industrial work which caused the oil contamination that's been found on site."

Transformer oil was reportedly stored at the Avery site, though use of transformer oil containing polychlorinated has not been documented. Fuel oil was stored at the site as well in a 500,000 gallon tank.

Mr. Liverman said early reports in the 1980s indicated contamination at the site.

"In the earliest reports, there are incidents where product was seeping from the shoreline into the river," he said. "I was out at the site four weeks ago and I saw sheens on the river."

The cleanup operation will start in mid-May and will last through the fall.

"At any given location, we may have dug down 18 to 20 feet by the time we stop," Mr. Liverman said.

Once the contaminated soil is excavated, the soil will be disposed of at an approved hazardous waste and municipal waste facility.

"We estimate on any given day we are working there may be as many as 20 trucks leaving the site to haul the soil to a disposal facility that has yet to be identified," Mr. Liverman said.

John Thomas, public works director for Shoshone County, said there is concern about heavy use on the roadway.

"There will be an extraordinary use of the roadway over a short period of time," he said. "We are looking at what impact this may have on the road and if it will bring about any accelerated deterioration."

Mr. Thomas said because of the high impact, there may be special provisions put in place with regards to the maximum weight of the trucks and speed.

"We are working closely with the EPA and consulting with them," Mr. Thomas said.

It's estimated that 64,000 tons of contaminated soil will be removed from the site. Of the 10 acres, Mr. Liverman said five to seven acres will actually need to be excavated.

"It all depends on how much we find," Mr. Liverman said. "Even though we have good background information on the site, you never know what you're getting into until you start the work."

Once the contaminated soil is excavated, the site will be filled in with clean material.

"We won't leave a big hole at the site," Mr. Liverman said. "It will be restored."

The estimated cleanup cost of $9.3 million will be divided among four entities.

"Potlatch will be responsible for the lion's share of the cost," Mr. Liverman said. "It's about 50 percent, though it's hard to say until we get out there and start to dig."

The Federal Highway Administration will be responsible for a portion of the cost as will the Idaho Department of Lands.

Mr. Liverman said the portion of the land owned by Larry and Margie Bentcik will be paid for by EPA.

Mr. Liverman said the EPA plans to sponsor an open house meeting prior to the start of the cleanup.

"We are thinking about having an open house sometime in late April or early May to answer any questions the public may have," Mr. Liverman said.

Big Avery job starts this month

By Summer Crosby | Posted: Tuesday, May 8, 2012 11:00 pm

Road repairs may follow.

A $9.3 million dollar cleanup will start May 29 at a site located one mile west of Avery.

When it's finished, Benewah and Shoshone Counties may have to dig into their pockets to pay to for repairs on St. Joe River Road (Highway 50).

Trucks weighing up to 105,500 pounds will carry contaminated material from the site to Medical Lake. On any given day there may be up to 50 trucks on the highway hauling material from the site, according to Earl Liverman, EPA on-scene coordinator.

The 10-acre site is located north of the St. Joe River and south of Highway 50. Mr. Liverman said there were reports of contamination as early as the 1980s.

From 1907 to 1977, the site was used as a switching and maintenance facility for the Milwaukee Railroad. It was located at the end of the electric rail line. The facility included a turntable, roundhouse, machine shop, fan house, engine house, boiler house, storehouses, coal dock, oil tanks and pump house.

There were various operations at the site including switching rail cars around, refueling trains and performing maintenance work. Transformer oil was reportedly stored at the Avery site, though use of transformer oil containing polychlorinated has not been documented. Fuel oil was stored at the site as well in a 500,000 gallon tank.

It is estimated 45,000 to 50,000 yards of contaminated material may be removed.

"We do not know exactly how much material will be removed until we start," Mr. Liverman said. "It's important to keep in mind these are all estimates."

Mr. Liverman said crews may have to dig down as far as 20 feet to remove contaminated soils. During the cleanup, trucks will haul 800 to 1,000 yards from the site each day starting at 7 a.m. Monday through Friday for approximately 30 to 45 days.

Four-axel dump trucks with four-axel trailers will be used, and capacity is approximately 20 cubic yards, Mr. Liverman said.

Potential damage to an already weakened road has county officials concerned.

"It's going to put stress on the road and already we have a few places slipping by the county line, and some others on the Benewah side," Jack Buell, Benewah County commissioner, said.

John Thomas, public works director for Shoshone County, said county officials are taking a look at the impact the heavy use may have. Both Mr. Buell and Mr. Thomas said the counties are looking at preventative measures to take to help prevent deterioration.

"We're looking at the weight of the truck, speed and dimensions of the truck. We'll also actively monitor the pavement conditions of the road during the cleanup operation," Mr. Thomas said.

"We have no way of knowing how much damage we will have," Mr. Buell said. "But we'll be watching very closely."

Mr. Liverman said the EPA is aware that the counties have concerns about potential damage to the road.

"Whoever is selected to haul the material will follow all state and federal rules as far as load restrictions and other requirement," he said. "It's a legal use of the road. The transportation companies will comply with restrictions and there's nothing more I can say."

If there is damage to the road, the counties would end up shouldering the cost, according to Mr. Buell.

Mr. Thomas said if damage to the roads reaches a certain threshold the county can ask the Western Federal Lands Highway Division for assistance.

Under a cooperative agreement, the counties are responsible for maintenance where as the Western Federal Lands Highway Division schedules capital investment projects for the highway.

Basic maintenance includes crack sealing and patching, minor slide repairs, road striping, signs, snow removal and more.

Western Federal Lands, which is a division of Federal Department of Transportation, sponsors capital investment projects are those project that such as pavement, realignment and more. These projects typically cost more than $100,000.

"It's a tough thing to work out," Mr. Buell said.

"They have the right to use the road," Mr. Thomas said, "and we have a right to regulate it."

Avery work starting soon

By Summer Crosby | Posted: Wednesday, June 6, 2012 12:00 am

It will be another two weeks before trucks start to move contaminated soils from a site located near Avery.

The $9.3 million cleanup starts 35 years after the Milwaukee Road railroad ceased operations. From 1907 to 1977, the site was used as a switching and maintenance facility for the railroad. It was located at the end of the electric rail line.

The site is a mile west of Avery, between the highway and the St. Joe River.

"Equipment started to arrive over the Memorial Day weekend and all personnel except for myself has arrived," Earl Liverman, EPA site coordinator, said. "We'll use the next two weeks to start setting up. We have infrastructure to bring in, the office trailers, and we need to get utilities to the site."

Mr. Liverman said the goal is to have everything in place by mid-June.

"We may be digging test pits to get a better understanding of the subsurface conditions," he added. "But the real work will begin in that mid-June timeframe if not sooner."

Crews may dig deep as 20 feet to remove the contamination. Once the contaminated soil is excavated, the soil will be hauled to Medical Lake.

Trucks will weigh up to 105,500 pounds and on any given day there may be up to 50 trucks on the highway hauling material from the site. It is estimated 45,000 to 50,000 yards of contaminated material may be removed.

Mr. Liverman said the job will be split over two summers. Potlatch Corporation will cleanup their property next year.

"What's going to happen this summer is the EPA will take care of the private property, the Federal High Administration's portion as well as the river portion. Potlatch will then come back next year to complete its portion of the site," Mr. Liverman said.

Mark Benson, vice president for public affairs for Potlatch Corporation, said it's customary for parties identified by the EPA as responsible for cleanup actions to hire their own engineers and conduct their own cleanup.

"By using its own engineer and cleanup crew, Potlatch avoids disputes with the EPA regarding cost allocation and has an opportunity to look for cost savings," Mr. Benson said.

Though the company has been identified as a responsible party for the cleanup, Potlatch was not responsible for the contamination. However, the company has worked to protect the St. Joe River from contamination by pollutants generated by former operations of the railroad, Mr. Benson said.

He said though the company is "naturally disappointed in this outcome, we will work with the EPA to cleanup this site."

Mr. Liverman estimates approximately fives acres of the site, which total about 10 acres, will be cleaned up this summer. Cleanup is expected to last into the fall.

Avery cleanup progresses

By Mary Orr | Posted: Wednesday, July 25, 2012 12:00 am

Approximately 4,300 tons of contaminated soil have been removed from Avery.

Twenty-thousand tons remains to be removed this year.

The $9.3 million cleanup started 35 years after the Milwaukee Railroad ceased operations. From 1907 to 1977, the site was used as a switching and maintenance facility for the railroad. It was located at the end of the electric rail line.

The site is a mile west of Avery, between the highway and the St. Joe River.

Crews have dug 20 feet deep remove the contamination. Once excavated, the contaminated soil is hauled to Medical Lake.

Trucks weighing up to 105,500 pounds are traveling to and from the site. Earl Liverman, the site coordinator for the EPA, said approximately 25 to 30 trucks are hauling contaminated material each day and between 50 and 60 trucks each day bringing in clean material to rebuild the roadway.

As crews have completed the excavation of contaminated soil on the highway, construction crews have been refilling the hole and should have the road rebuilt within a few weeks. The surface will remain gravel until a paving crew comes through in mid-September.

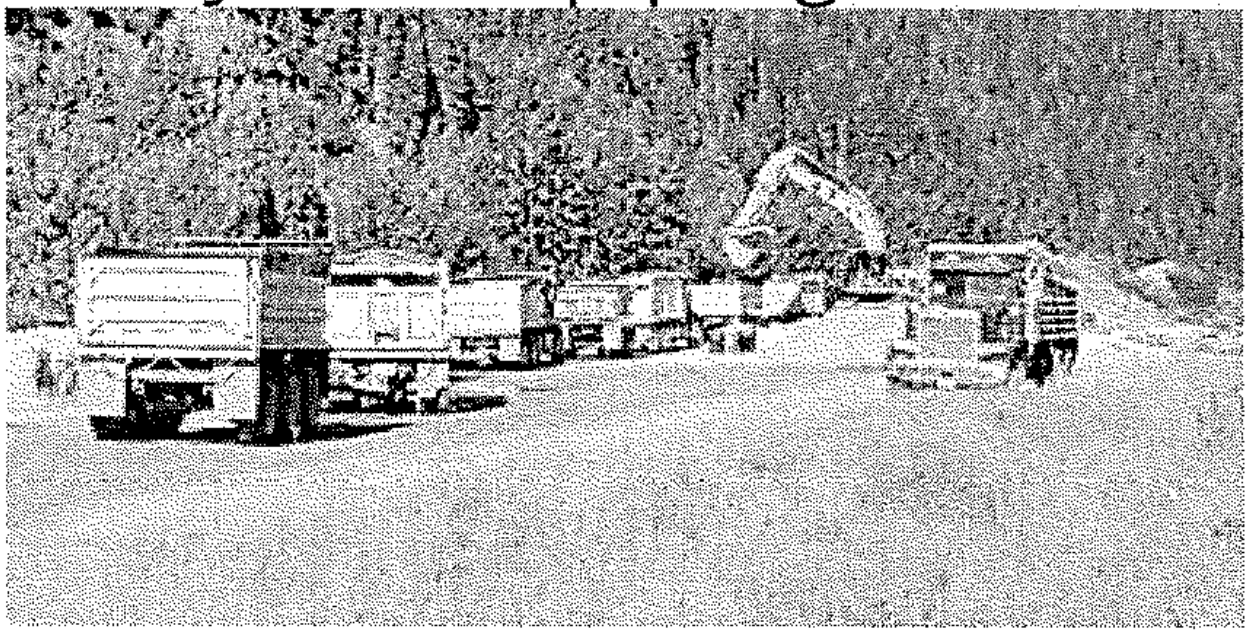
In addition to removal of contaminated soil, the crews have treated approximately 3.7 million gallons of contaminated groundwater and discharged 2.9 million gallons back into the river. The difference is attributable to some water being reused onsite for dust suppression.

Last week crews began to pull out riprap material along the bank and this week they will push the river back and dam up the portion of the bank to be excavated.

An estimated 45,000 to 50,000 yards of contaminated material may be removed over the next two years. The EPA has contracted to have half removed this summer and next year Potlatch will have a contractor remove the contaminated soil on their property.

The EPA expects the have their portion of the project completed between the end of September and early October.

Avery cleanup progresses



Avery cleanup progresses

Trucks line up to be loaded at Avery as part of the massive cleanup of the old rail yard now underway. Between 25 and 30 trucks are hauling on the job. - Submitted

Avery work winds down for the year

By Summer Crosby | Posted: Tuesday, October 2, 2012 4:11 pm

The contamination at the Avery site proved to more widespread than initially thought.

Crews will finish the first portion of the cleanup by mid-October. The site is a mile west of Avery, between the highway and the St. Joe River.

Earl Liverman, site coordinator with EPA, said approximately 70,000 tons of contaminated soil was removed from the site. In addition, 15 million gallons of ground water was pumped and treated.

"We originally estimated we'd be removing around 32,000 tons," Mr. Liverman said. "We had planned to dig to 17 feet, but in many instances dug down just below 20 feet."

The $9.3 million cleanup started 35 years after the Milwaukee Railroad ceased operations. From 1907 to 1977, the site was used as a switching and maintenance facility for the railroad. It was located at the end of the electric rail line.

There were various operations performed at the site including switching rail cars around, refueling trains and performing maintenance work, which is believed to have caused the oil contamination that was found at the site.

Transformer oil was reportedly stored at the Avery site, though use of transformer oil containing polychlorinated has not been documented. Fuel oil was stored at the site as well in a 500,000 gallon tank.

The EPA cleaned up the portion of the site that was owned by the Idaho Department of Lands, the Federal Highway Administration and the private property owned by Larry and Margie Bentcik.

The cleanup started May 29. Mr. Liverman said a total of four acres were treated. Material was hauled to a waste management facility in Medical Lake for disposal.

"The nature of the oil was different in many ways than diesel. The material was heavier, almost asphalt-like," Mr. Liverman said.

During the work, crews also encountered subsurface debris that had to be removed.

"There was a lot of material on site that was buried. We encountered old railroad ties and concrete foundations that were removed as part of the excavation," Mr. Liverman said.

He added crews excavated a short distance into the portion owned by Potlatch Corporation to ensure there was no likelihood of recontamination of the area that was cleaned. He said all that

remains to be done at the site is for crews to finish filling in areas that were excavated and to remove equipment from the site.

Next summer, Mr. Liverman said Potlatch will have a contractor remove the contaminated soil on its property.

"I feel it went very well this summer," Mr. Liverman said. "The community was great and we enjoyed their company and hospitality immensely. All that remains is for Potlatch to come in and complete work on its portion of the site."

The cost of the cleanup was divided among four entities.

Potlatch is responsible for cleaning up their property. The Federal Highway Administration will be responsible for a portion of the cost as will the Idaho Department of Lands. EPA paid for the portion of the Bentcik property.

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